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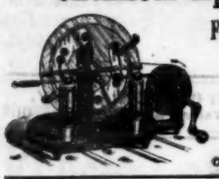

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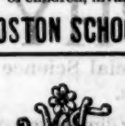

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MANUAL training seems to have made but little progress in Boston during the past year. The school of carpentry has been conducted in the *basement* of a school-house, and, the report says, "has accomplished the *usual* course." Six schools of cookery are established, and have been "as popular and successful as they have *always* been" Just how far back "always" extends the committee does not inform the public. "Instruction in sewing has received its *usual* share of attention." The advanced work in manual teaching consists in the establishment of an additional school of cookery, the introduction of the Sloyd system, and of "elementary manual training" into many primary classes. All of this is too general. What the educational world wants to know is particular information. *Exactly* what has the school of carpentry accomplished? To say that it has gone through its "usual" course is not enough. What has made the school of cookery popular? There is a great deal of doubt as to the practicability of engrafting such a department upon the public school system. If the Boston school has always been popular, could not the report give other boards the elements of its success? How many classes have been instructed in sewing, have they been successful, and what are the elements of their success? What is elementary manual training? Is it the kindergarten, geometry, paper-folding work, or Yankee whittling? The world is anxious for particulars in this line, and the school committee of the city of Boston could not do the schools of this nation better service than to issue a report giving detailed accounts of the special means it has used in order to attain its success in hand educational exercises.

THE superintendents last week at Philadelphia endorsed compulsory education, and urged the establishment of normal schools, colleges for the preparation of teachers, schools of pedagogy in universities, courses of lectures on the science of teaching, educational periodicals, the principles of civil service as applied to the teachers of the public schools, and the enactment of laws in the several states requiring from all candidates for the office of teacher in these schools certificates of qualification from the state authorities. They said that justice and the best public service require the retirement and pensioning of teachers after a service of thirty years, and upon carefully devised conditions. All of this shows that our superintendents are wide awake, and willing to do all within their power to advance the interests of good methods. But how about manual training? Was it an unthought-of omission, or was it because Supt. A. P. Marble was chairman of the committee making the report? It must surely have been an inadvertence.

MR. CURTIS said at Philadelphia, what every decent teacher in all the world will assent to, that "teachers should be licensed and appointed upon examination, and the examination, the giving of certificates and the appointments should be free, as far as possible, from personal prejudice or favor, political pressure, or other illegitimate influence." Without this the vocation of teaching will not become a profession. Mr. Curtis urged the application of the principles of civil service reform to the public school system. The law should control the action of all school officers, and make the tenure of office of all school officials so permanent and so well paid that capable men and women will be willing to devote their lives to the work of teaching.

THE *Amherst Student* suggests that a series of lectures, or talks on teaching, be given to prospective teachers from the senior class. Why does it not suggest a series of lectures or talks on law, or medicine, or theology, to prospective lawyers, doctors, and ministers? Teaching is a science demanding far more careful preparation than any of the learned professions. Rather let there be a department of the science and art of education, in which instruction may be given for two years. This would come nearer our ideas as to the magnitude and importance of the great work of education.

WHY do we study history, geography, science, literature, and mathematics in our schools? Certainly not because the number of facts learned will be the measure of the success of pupils in their after life. A young man crammed with items of all sorts, has no better chance of becoming successful in business than one who knows far less, but has had such a drill as has enlarged his powers of observation, and made his reason and judgment safe guides to follow. The kindergarten is educational because it makes culture of first importance. We are coming to recognise physical training because a healthy body is necessary to a healthy mind. Science is studied because it gives acuteness to the observing faculties, and brings the individual into the closest sympathy with his environment. Manual training enables the pupil to make the most of his senses, by bringing all his muscles and nerves into obedience to his brain, and enlarging his knowledge of the world with which he is surrounded. History in a good school is not a simple record of the past, but a means by which we learn the great law of cause and effect, and the natural consequences of man's action. Moral training largely rests upon an appreciation of the beautiful—the fitness of things. So we teach art, not for the purpose of making artists, but moral men and women, knowing the good, the true, and the beautiful. This is not theory, but practice; not imagination, but reason.

It has often been asked, "What knowledge is of most worth?" and the answer must be, That knowledge that enables one to make the most of himself, for the good of his fellows. The child must become a good and virtuous citizen, and every force that will enable him to reach this end is good, but every force that does not enable him to reach this end is bad.

THE churches must concentrate their forces upon the Sunday-school. Parochial schools are expensive, and, at least for Protestants, impracticable. The people cannot be made to support them with the spirit and energy essential to their success. The week-day school will strengthen the intellect, and educate the moral character; the Sunday-school will train the religious powers. It is supreme folly for the churches to attempt to destroy the public school system because they cannot manage it in their separate interests. But this is what is being done. An ex-moderator of the general assembly of the Presbyterian church recently said that "under our present system of public education, we are raising up a nation of atheists. If, in this Protestant Christian land, the Bible and all religious instruction are to be excluded from our public schools, God may blow upon our whole educational system, and send Israel back to their tents, to save what they can from moral total wreck and ruin." This is simply nonsense. What sort of people are teachers, atheists? Everybody knows better. The less of such talk as what we quote, the better will it be for the good of our educational system and nation.

THE change that has taken place in the estimate in which the teacher is held is well stated in the opening sentences of a response recently made by Captain S. G. Pierce, of Rochester, N. Y. He said that "an obscure seventeenth century author, describing the manners and customs of the people of his time, outlines the duties of a tutor in a noble man's family something after this wise: 'He shall curl my lady's hair, brush my lord's wig, look after the sick dogs, and, by the by, he shall instruct my lord's children.' And old Roger Ascham, Queen Elizabeth's instructor, thus bewails the low estate of the teacher of his day: 'It is pity that, commonly, more care is had, yea, and that among very wise men, to find out rather a cunning man for their horse, than a cunning man for their children. But God rewardeth them as it should; for he suffereth them to have tame and well-ordered horses, but wild and unfortunate children.'

"Who has not laughed over the mishaps of Ichabod Crane, the long, lank, stoop-shouldered Yankee schoolmaster of Sleepy Hollow, and has not seen in Irving's graphic sketch the low estimate which the people of the early years of this century put upon the teacher and his work." It is a good sign that all of this has passed away, and we have entered upon an era in which the *true* teacher is held in high esteem.

COULD WE LIVE LIFE OVER AGAIN!

The older usually see farther than the younger, and if they could live their lives over again, and could utilize their experiences, they would make fewer mistakes and far more successes. We have an example of this in the recent remarks of Professor Roberts, of Cornell university, on "What he would do if he were young again." He says, "I would visit the school committee to see if they would not hire a teacher who would conduct me through the arithmetic successfully in two years instead of seven; one who had lost the art of spending fifteen years in imperfectly teaching how to form twenty-six simple characters. If I were a youth just entering my teens I would want a teacher who had both inspiration and aspiration; one, in fact, who knew more than I did, so that I might be taught what to eat and how to eat; how to work and when to play; how to grow strong and beautiful; how to become good and true, and how and to whom to give thanks. Then I should want explained to me in the most simple language the uses, beauty, and pleasures of knowledge, so that while giving thanks for the blessings enjoyed, a holy zeal, a consuming desire for knowledge would possess me. I should want a teacher who could point out the road, who knew of the schools of higher training, their specialties, their character, and quality.

"I would divide my time first into two parts—one for rest and sleep, and one for activity, and these two parts should not exchange beds, or bunk together. The hours of activity would be devoted to work, to getting strong and beautiful, to acquiring knowledge, and to meditation. As the hardest thing a young person has to do is to 'keep still,' and the easiest is to put forth muscular effort, I should be careful not to work too long or hard, in order that vitality might be left for the harder effort of thinking.

"I would try to get such training and understanding that I could work for myself profitably; that is, I would avoid being so poorly equipped that I would be compelled to employ some one else to direct my labor, he getting the lion's share, I getting what was left. I would get at least two strings to my bow, so that if the world had no 'long felt want' which my theoretical knowledge could fill, I could make a washboard, a shoe, or an apple barrel. I would inspect carefully many of the open doors which are labeled 'education;' having found the one best suited to my desires, I would enter and not come forth till I could do several things well enough to attract attention, and I would 'kick' if anybody thrust me into the wrong door."

There is a great deal of sound common sense in these words which teachers will appreciate. The central thought is *the teacher*, and he is the central thought of the civilization of to-day. The parent has lost no importance, but the teacher has gained immensely during the past half century, and he is to gain much more during the coming years. At no time in the history of the world has the teacher been so important a factor among uplifting forces, and the people are beginning to find out this fact.

President Webb, of the College of the City of New York, has recently suggested to Secretary Dewey, of the New York board of regents, that its annual reports do not give such information as is of special value to students of education. Dr. Webb suggests that the state reports should show the number of weekly recitations in each class and in each department; a list of text-books used, and how and by whom authorized; the names of instructors and the work assigned to each, and the number of hours of actual teaching of each teacher each week; the number of students taught in classes, the number on the rolls the first and last days of each term, and the cause of discrepancy as far as ascertained. These are sensible suggestions, which all boards of education would do well to note. Our state and city reports do not at present give such minute information as the student of educational values wants. A reform is needed.

SCHOLARS' UNIONS.

It has been a belief often avowed in these columns that the formation of "scholars' unions" should be encouraged—call them by any name you will. There is before us the spectacle of the formation within ten years of the "Christian Endeavor" societies, that number over 100,000 members; these are connected with the churches, but there is needed a similar formation connected with the schools. "Education Endeavor" societies would have a fine field; the field is really white to the harvest. These societies should consist of all who attain a certain rank—say about a Fourth reader grade; they should be voluntary; should have specific aims—advancement in literature, science, and art; should be under the protection (not direction) of the teacher and school officers.

Great losses occur by not employing or suggesting the tendency that exists in school boys to organize. A boy comes to school for a few years, drops out, feels no cord drawing him to his old fellows and the school, and strays away ever after; he not only disappears from the school community, but from the community of young people of which he was a *quasi* member for a time. Now it is bad for a man to be a member of a church and to drop out and belong to no church—it is a going down process. A boy suffers from having been under the direction of a teacher for a year or two, and then drifting away from the view of teacher and schoolmates. It is on this ground that the formation of these "scholars' unions" is urged.

There are other grounds, and one of the strongest is the aid they might be to the school in after years. They would be like the soldiers of the late war, ready even in their old age to battle for a generous education of all children.

But there are thousands of boys who must give up attending school at an early age; if these were still held as members of the school, should meet once a week for educational purposes, were helped to get a library (supposing none existed in the town), had the encouragement of the teacher, the school officers, and friends of education, were steered safely round the shoals of making the society too scholastic or too festive, a great good might come, because a distinct object in life would be put before boys who had none.

In a town in New Jersey, where there were cheap, light shoes made, the boys were early taken from school to assist. The principal found a great field existed outside of his school-room, and the boys were encouraged to form an association; it was called the "Good Intent Society." Being invited to attend, he found over sixty boys assembled; the room was over a shoe shop, the entrance was by a ladder through a trap door. Now, what should these boys do? He proposed a course of lectures. A lecture association was formed of the citizens and boys that used to make the streets lively nights, and marched in, in fine order, as a society. The citizens gave them a library, but that did not do so well, because there was no one to have an oversight of the books, and many were lost.

Debates were engaged in, dialogues were learned, and the association had the satisfaction of inviting in their friends to witness their performance. So long as that principal remained the association flourished, the streets were less noisy at night, there was more respectful behavior, and a great improvement in personal appearance was noted.

What is proposed is a general basis for pupils in the public schools, or who have been such, as underlies the "Christian Endeavor" societies, the "Agassiz Association," etc. Thus a great deal of waste energy would be consumed. There is a gap here not yet filled for boys and girls of the age of twelve to eighteen; and then, too, the self-management demanded would cultivate in a direction most needed those who are hereafter to be managers of a republic.

If it costs no more to build a beautiful schoolhouse than a homely one, by all means build a beautiful one. Beauty is an educating power.

It is astonishing how persistently some people will follow an hallucination even though they know it is certain to land them in a quagmire. Mr. Richard Lathers is an example of this sort of thing, for he recently said in an address before the church club of this city:

"If the statutes connected with the public schools were so modified, as simply to give to any parochial or other religious organism of any denomination a pro rata portion of the school fund according to the number of scholars actually attending such school during the current year under the direction and inspection of the state commissioners as to discipline and studies, but leaving to the respective sects or churches the exercise of every form of Christian faith and practice consistent therewith, so that the present organization of the public schools shall continue to meet the wants of the public as they now do, but having the Protestant Bible as a text-book, in my judgment this would induce a generous competition for a higher scholarship and moral training generally as between these voluntary parochial schools and that of the public, as well as between the parochial schools themselves, which would also offer the public the advantage of the clerical and religious supervision as compared with officials of political and partisan appointment. This plan, too, would relieve the state of large expenditures for school houses and other charges."

Mr. Lathers' judgment is not good. The division of the school fund into small parcels would indeed relieve the state of large expenditures, but it would also relieve it of good schools, and in many places of any school at all. In a town of two or three thousand people how would it be possible for each "religious organism" sect, and club to support its own schools? Churches have hard work now to meet all demands made upon them; the additional burden of school support, with all that this means in this age of educational progress, would make church life an intolerable bondage. The people couldn't stand it.

It is reported that, if the New York pension bill for teachers should be passed, fifty teachers at Albany would at once resign and take advantage of its provisions. This would cause an additional expense of $25,000 to that city. We are in a fair way, if we keep on weighting down the public school system of this country, to crush it under the weight of extra burdens. In this city it is proposed to hire rooms and lecturers for the purpose of giving the people instruction and amusement. Already text-books and supplies are furnished free, and a proposition has been made to give free noon lunches to children of such parents as are too poor to provide necessary food. It is time to determine the limit of public benefaction in the direction of free education.

The *Educational News* of Philadelphia does not agree with a prominent college president, who says: "Don't try to teach children to think." The *News* urges that a child should be taught to think. Let us see. It would be as sensible to undertake to teach him to digest as to teach him to think. Nature has made ample provision for him in both directions. The teacher's work is to place within his reach such food for thought as his undeveloped mind can comprehend. Don't try to teach him to think. He will think without teaching. Rather teach yourself to know what to place before him, so that the greatest amount of good thought may be *developed*. What he wants is strength, not cramming.

The legislature of Alabama appointed a committee to examine the normal school and its work, and report whether it should be abolished or not. One of the arguments against it was that the yearly expenses per student are from twenty-five to seventy dollars, while pupils in the common schools receive from the state but one dollar each. The enemies of the normal school seem to forget that the sum of one dollar is for the personal benefit of the pupil only, while the money that is spent for the education of teachers is of benefit to the state at large. The Journal is glad to know that the committee made a report favorable to the education of teachers.

The *London Times* cites from the *American Bureau of Education* some of the evils in American public schools: "Injudicious application of the marking system; injudicious system of examinations; too many studies; too many home lessons; an injudicious method of teaching, which confounds thoroughness with exhaustiveness; too much pressure to secure punctuality and regularity of attendance; rolls of honor printed in annual reports; competition for honors and medals; too long abstinence from substantial food and nourishing drinks; bad air; cold draughts; too many flights of stairs."

An appeal in behalf of Dr. Henry Barnard's "Journal of Education" was made by Dr. Harris before the superintendents' association at Philadelphia last week.

Dr. J. Stanly Hall heartily commended the University School of Pedagogy in his address before the recent meeting of the superintendents at Philadelphia.

EDITORIAL CORRESPONDENCE.

In 1887–8 I visited Florida for the purpose of testing the mild climate that her people enjoy while we of the North are buried in snow-drifts. I was greatly benefited by the sunshine, for I made it a constant practice to sit every day for hours not only in the open air, but in the strong light of the sun. I met with a hearty welcome at every town, and the notes I made of things seen were well received. The raw winds of February have continually reminded me that there was a place within easy reach where these did not blow; and, after staying in the house an entire week from a severe cold taken while rejoicing in the return of a birthday anniversary to Prof. John Kraus, the eminent disciple of Frederick Frœbel, I found myself on a swift train *en route* for the South, Feb. 23.

It was with regret that I determined to forego the superintendents' meeting at Philadelphia. On the train were Supt. Gorton, of Yonkers, and Prof. E. E. White, and on the following morning in Washington, I found Supt. Powell was making ready to go, so that there were prospects that the gathering would be one of interest. It has often occurred to me that there should be a winter meeting of the association in Washington, and that this should bring together the most influential of the profession, who should labor to unify educational practice. At present, each state does what seems right in its own eyes, irrespective of the practice in another state. I should favor an educational congress where there would be no "papers" on grammar, but where the state superintendents, for one thing, would consider the licensing of teachers and agree upon a uniform plan.

Starting from Washington at 11 o'clock A.M., in twenty-four hours we reached Jacksonville. Soon after passing Savannah the beautiful yellow flowers of the jessamine made their appearance, lighting up the dreariness of the country, for there is no country more dreary and desolate than the Atlantic coast of Georgia. After leaving Petersburg a region of pine trees was entered upon, not to be got away from except by moving into the upland region; these trees grow upon a thin, sandy, and in most places a weak and worthless soil. At intervals the turpentine gatherers were seen at work. The villages are few and small. The country houses are merely cabins. The negroes fasten two thin, small cattle to a small cart and draw a small load over the sandy roads. If they use a mule they sit astride the little animal; at one place a small load of hay was brought in by two small mules in tandem; on each sat a burly negro.

While talking with Col. John Hay, the author of Life of Abraham Lincoln, the train stopped at a hamlet of unpainted houses. Across the street were three poor whites with their hands in their pockets, standing with their backs toward us; in front of them was a young, bright looking negro reading to them from a newspaper. The poor whites have not yet had their emancipation proclamation; it will come to them from the public school. On the train was a minister who had decided educational notions: "I was asked to address the primary teachers of Worcester, and I said that I was in favor of paying the primary teacher as much, if not more, than was paid the advanced teacher; but not for such primary teaching as we now have. The first part of my statement gave great satisfaction; but the latter part displeased very much."

Jacksonville has improved in the four years I have been absent. The railroad facilities are better. Inquiring for County Superintendent Mead of a prosperous German trader, he said, "My children often speak of him." "You like the public schools?" "The American public school is the greatest institution on earth." This sentiment lies at the bottom of the heart of every American; even those who feel that religion should be taught in school declare that the American public school must and shall be preserved.

Jacksonville, Feb. 26. A. M. K.

THE law of Massachusetts in relation to the employment of children in factories, workshops, and public buildings is very strict. Among its provisions are the following: No child under thirteen can be employed *at any time* in any factory, workshop, or mercantile establishment. No child under thirteen can be employed in any indoor work, during the hours when the public schools are in session, unless he has attended school at least twenty weeks during the year next preceding his employment. A chief inspector of factories, workshops, and public buildings is annually appointed, and truant officers are constantly on the alert to find out and report any violation of the state requirements. The result of all these enactments is that in no state in the Union is there a larger percentage of children in school than in Massachusetts. The old Bay State is as earnest to-day, in the matter of education, as in 1647, when every town containing a hundred families was required "to set up a grammar school."

THE PUBLIC SCHOOL AND CIVIL SERVICE REFORM.*

By GEORGE WILLIAM CURTIS.

Is not every argument for the appointment of the great body of ministerial officers of the government by fitness and character, wisely ascertained, infinitely stronger when applied to the selection of school-teachers? And if the selection of those officers by methods which secure their independence, promote their self-respect, and stimulate their interest and zeal, instead of destroying, greatly increases the efficiency of the public service, elevates the tone of public employment, and removes a reproach from the national name, is it to be apprehended that similar care would harm the character and efficiency of the public schools? In other branches of the public service, whatever objections may be urged against the reformed system of appointment, it is undeniably better than the system which it supplants. Teacherships in the schools are not popularly regarded as subjects of patronage. But are they not so practically, and is it wise that they should remain so? What is the present system? I believe that the requirement of certification or license before appointment is universal in all the states of the Union. The examination upon which the certificate or license issues is the cardinal point. By whom, generally speaking, is this examination conducted?

By city boards of education and county commissioners, or trustees or committees, who are appointed by political officers, or nominated by party conventions; these are the authorities who examine and certify, or license and appoint more than ninety per cent. of the teachers. Is this a reasonable manner of securing public officers qualified for duties so delicate and important as those of teachers in the public schools?

The officers who are elected to conduct examinations, and license and employ teachers, are notoriously often selected without any regard whatever to their special qualifications for a responsibility so great, and for duties so vital. It is probably true that the great multitude of officers appointed to conduct examinations, however well disposed, are totally unfitted properly to conduct them.

The dignity, the influence, the power, of the teacher's office are incalculable. Is any public duty more transcendent than that of enabling the duties of that office to be discharged more satisfactorily, of constantly elevating it both in the respect of him who fills it, and in the confidence and honor of the public for whom he holds it? Shall we spare any thought, any effort, any cost, to make the public school what we mean it to be, the cornerstone of the ever loftier and more splendid structure of political liberty, and to impress upon the teacher by our sympathy and care the central truth of the school system that the child is educated by the state, not that he may read and write only, but that the trained power and noble intelligence of the American citizen may tend constantly more and more to purify and perpetuate the American republic.

What is the key of an effective public school system? It is not the pupil who is plastic material, but the artificer who shapes the material. It is not the school property, nor the appropriations for maintenance, indispensable as they are. Reason, experience, the common consent of all great thinkers and all authorities upon the subject, agree that the teacher is the school. All the wealth of India, or of California, could not provide a great school of any degree unless it could secure great teachers. Noble buildings, storied quadrangles and ancient groves, munificent endowments, museums, laboratories, gymnasiums, libraries, the profuse accumulation of literary and scientific resource, without the teacher is but Pygmalion's statue uninspired, the body without the soul.

In answer to the objection urged, in discussions of civil service reform, that no preliminary examination as to general or special information could determine satisfactorily the fitness for his duties of a public officer of any degree, I will say that it is simply a question of alternatives, and that an impartial preliminary inquiry into fitness is better than no case or inquiry at all, which is the method of the spoils system. The civil service reform rule is that final appointment shall be made only after probation or actual test of capacity, and so while it is true that an examination as to scholarship will not test all the important qualifications of a teacher, such as ability to keep order, to awaken interest, and to impart knowledge, probation will test them.

* From an address before the National Department of Superintendence, Philadelphia, Feb. 25, 1891.

COLOR AND COLOR TEACHING.

By CAROLINE T. HAVEN, Workingman's School.

To the study of form, already so prominent in the best methods of education, there has now been added a growing interest in color, the two subjects being closely related, and mutually assisting in the interpretation of objects. For the most part, color teaching has thus far been carried on in a desultory fashion; the principal means employed have been color charts of various styles, no two of which presented the same colors or used the same names. In using these charts, it has been deemed sufficient, if the child could correctly name the colors, or possibly classify them into primaries, secondaries, or tertiaries. The child by frequent repetitions, would often learn the name from its position on the chart, and instances have been known, in which by such tests, color blindness escaped detection for a long time. Such means however no longer satisfy the teacher of to-day, and with the general awakening as to the importance of the subject, the desire comes for a better understanding of the principles, upon which may be based more correct methods of teaching. The essential scientific facts relating to color may be found scattered through numbers of books, but for the most part considerable research is necessary to gain even a general idea of the subject. It is the purpose of this paper to bring together these essential facts into a condensed statement that may be of practical value, leaving the details to the individual teacher who may be interested to pursue the study further.

Since all color is derived from light, we must first consider the nature of light itself, concerning which there have been two general theories. The first was of early origin, but being accepted by Sir Isaac Newton, and made by him the basis of his researches in optical phenomena, is usually called the Newtonian theory. According to this, light was considered a material emanation of fine atoms, thrown off by any luminous body, and these atoms striking upon smooth surfaces, were reflected to the eye according to the ordinary laws of elasticity. It was, however, demonstrated that sound was but the vibrations of air striking upon the ear, and this gave rise to the conception of the undulatory theory of light, which now receives the sanction of all scientists. In this theory, there is no transfer of matter from the object to ourselves, but a transfer to *force*. The molecules of the ether which fills all space are set in motion by contact with a luminous body; this vibratory movement is communicated to the particles touching these, and the waves generated finally striking on the retina of the eye give us the sensation of light. The circles caused by the throwing of a stone in the water give us some idea of these waves of light, and a somewhat similar effect may be observed in a field of ripened grain. These waves of light are of different lengths and therefore, produce different sensations. If about $\frac{1}{57000}$ of an inch, we receive a sensation which we call red; if shortened to $\frac{1}{47150}$ of an inch we see orange; and with the gradual shortening of the waves, there is produced yellow, green, blue, and violet.

This color sensation is subjective only, depending on the eye, just as the waves of sound must impinge upon the ear before they can be resolved into their elements.

If a beam of sunlight entering a darkened room be made to pass through a triangular prism of glass at the proper angle, the rays will be refracted out of their course. These rays thrown upon a white screen will present an elongated band of colored light, red at one extremity, and violet at the other, which is called the solar spectrum. Newton first showed this composition of white light and from his investigation, pronounced the primary colors to be seven in number: red, orange, yellow, green, blue, indigo, violet. Other physicists reduced this number, to three fundamental colors red yellow and blue, this view being accepted by Sir David Brewster, who stoutly defended the theory by maintaining that all colors were produced from three fundamental kinds of light. This theory has had a wide circulation, and has been the basis of most of the color teaching in our schools. It has received confirmation on every hand from the artists who have learned that all colors may be produced from mixtures in various proportions of red, yellow, and blue pigments. If we accept this theory, however, we are forced to admit that there are but three lengths of waves of light, as well as the fact that, by its use, color is entirely objective, while we have already seen that the impressions of color depend on the individual eye.

But the idea of fundamental colors has been considered in quite a different way by Thomas Young, and the results of his investigations have been confirmed by

Helmholtz and generally accepted by modern scientists. By this theory, every portion of the retina of the eye is provided with three sets of nerve fibrils. One set is principally acted upon by the long waves of light producing the sensation we call red; another set is stimulated by the waves of medium length and give us green, while the third are chiefly impressed by the short waves, resulting in the sensation of violet.

It will be seen that each acts to some extent on each set of nerves, but more strongly on the particular one designed for it. If all the nerves receive the same degree of stimulation, the result is white light. Having thus accounted for the sensations of red, green, and violet, it is easy to see how the other colors are obtained. For example, yellow is produced by waves of light intermediate in length between red and green; the waves are too short to act powerfully on the red nerves and too long for the green, but both are moderately excited, while the violet are but slightly disturbed. Again in the case of blue, the green and violet nerves are both stimulated moderately and the red scarcely at all.

Thus, scientifically speaking, the three primary colors, if we desire to use the term, are red, green, and violet, which is contrary to the results shown by the experiments with pigments. In the introduction to Von Bezold's "Theory of Color," Professor Edward Pickering says. "In reality all the colors of the spectrum are equally primary; all ordinary colors are formed of rays from every portion of the spectrum differing only in the proportion in which they are combined." Helmholtz also voices this idea when he speaks of "the six simple colors."

THE SCHOOL ROOM.

MAR. 7.—LANGUAGE AND THINGS.
MAR. 14.—EARTH AND NUMBERS.
MAR. 21.—SELF AND PEOPLE.
MAR. 28.—DOING AND ETHICS.

THE MEANING OF WORDS.

By MORRISON H. CALDWELL, Principal College Hill Institute.

The boy whose Latin translation read, "The Agricolaes are edificating the aras," showed plainly that he was in need of a better vocabulary. The ignorance of many pupils of the meaning of the words used in our best text-books is far greater than we think. The difficulty that confronts us is, not how to get the pupil to remember ideas, but how to select words that represent the ideas. The definitions to be found in dictionaries are seldom understood, and consequently soon forgotten. The burden of aiding the pupil to select the proper term to represent the idea falls upon the teacher, and for this his best talents will be called forth; that is a superior teacher, who can make the pupil select the word that represents an idea that is in the mind of his pupil.

The capacity of each class must be considered first, but in all cases the meaning of words is best taught by asking for the meaning of every word which they are likely to fail to understand. If no one in the class can tell what the word means, the teacher will then do so, care being taken to use only such words as the dullest will fully understand.

There are many advantages in word analysis. The pupil should be taught the meaning of the most common prefixes and suffixes, and trained in the analysis of words showing the use of these. The teacher should be able to analyze any word capable of analysis, and in explaining the meaning of such words as perplex the pupil in geography or history, the analysis should always be given. The writer has observed that definitions of words thus learned are seldom forgotten. The capacity to comprehend the ideas of text-books is increased by this comprehension of the meaning of words, and they are more easily remembered; the vocabulary of the student is enlarged, and a spirit of thorough scholarship is inculcated, which cannot fail to bear fruit. This method of word teaching may be used in the lowest grades as well as the highest.

The teacher must ever bear in mind that "a word is the sign of an idea." Suppose it to be the grammar recitation. Instead of merely "hearing the lesson," or listening to a parrot-like repetition of definitions, let the teacher first explain to the class that this department of learning is called "grammar," from a Greek word meaning "writing." He should then place upon the blackboard the analysis of all the technical terms and require the class to copy them for future examination. Thus: *Noun* means *name*, and comes from the Latin *nomen*, meaning name. It is so called because it is the name of a person, place, or thing. *Pronoun*, means for a noun, and is compounded of *pro*, meaning *for* and *nomen*, a name, and it so called because it stands for the name of a person, place, or thing. He must carry this into the moods and tenses in fact all the way along.

Knowing the reason why these terms were applied, they have a much clearer insight into the meaning of the definitions. They soon begin to seek the reason for everything, and the true teacher should ever welcome the "whys." This is a sure sign that the mind is being educated in the true sense, and a great thinker has said, "A habit of thinking is worth a thousand thoughts."

SUNBEAM VISITORS.

(The teacher may illustrate this article by the use of a prism, a revolving disk with the six colors, a lens, a mirror, and a bowl of water.)

It was a clear, cold morning in March when a party of bright little visitors came in at the dining-room window of a certain house. You may say they were very strange visitors not to come in by the door, but what will you think when I tell you that they not only came in through the window, but through the glass? They did not break it, however; they came in as softly as fairies who are said to go through doors, and walls, and all sorts of hard, solid substances without making any noise or doing any damage. These fairy-like visitors left the glass just as they found it, but you remember that I said the morning was cold; so, on the outside of the glass, close to the window frame were some particles of ice. This the visitors did not leave just as they found them. They changed them to little drops of water that trickled down outside the window frame. Ah, now you know that these morning-callers were sunbeams! I will tell you some of the things they did in this room that we may have an idea of the wonderful work going on in the world outside by means of millions of these bright messengers from the sun to the earth. Some of the sunbeams coming in at the window went straight across the room and fell upon the white marble mantle, but on the way several of them passed through the hanging ornaments of the candelabra standing on the mantel. These pendants were of glass, three-sided, and sharp-cornered.

We call them *prisms*. Strange to say, each sunbeam that passed through one of these came out quite different on the other side. It was no longer one bright ray, but six rays close together—red, orange, yellow, green, blue, and violet. The colors showed quite plainly as the sunbeam in its new dress fell on the white marble. This is what always happens to a sunbeam passed through a prism; and, as the colors are always the same, we know that they must all be in every sunbeam, only we cannot see them. Just so when a disk on which these six colors are painted is made to revolve very quickly it looks almost white. This is because the colors seem all mixed together, as we cannot see one at a time when they are moving so quickly. So we are led to think that the colors are all mixed together in the sunbeam to make white light and that the glass prism takes them apart. Other sunbeams, passing by the candelabra and their prisms, fell upon the mirror above the mantel. Here they did not seem to be wanted; perhaps the mirror thought itself bright enough already, for it pushed or threw them back so that its surface shone as if sunbeams were streaming out of it instead of falling upon it!

Light that is sent back in this way we call *reflected* light. Surfaces that, like the mirror, reflect a great deal of light are called good reflectors. All surfaces send back some light or we could not see them, but sometimes it is very little. For instance, the fur rug lying in front of the fireplace was very glad to see the sunbeams and took in or *absorbed* almost all of them, so every one said it was *black* fur. Then, you know, we said there were six different colors or rays in every sunbeam, and some surfaces take in all but one of these rays and send that back. The sunbeams that fell on the leaves of the plants in the dining-room windows were taken in all but the green rays; and, as those were sent back of course, the leaves looked green, though the color was not in them, but in the light. The blossoms of the geraniums took in all but the red rays, and so the flowers looked bright red. The cloth on the breakfast table sent back part of each of the rays, so it looked white, and the silver knives, and folks, and spoons, like the mirror, sent back just as many of the sunbeams as they possibly could, so they shone brightly enough to almost dazzle one's eyes.

In one of the windows there were no plants, but instead there was a fish-globe, where several little gold-fish swam about merrily. The sunbeams that fell into the water passed through it as they did through the glass, but not in straight lines; they were everyone bent or turned out of the way a little. You or I could not bend a sunbeam, but water can and does. You can see this best by dipping the end of a straight stick or pipe-stem in water. You will see that it seems to be bent where it touches the water, yet on taking it out it is as straight as ever. It looks crooked because the rays of light by which we see it are bent or *refracted* by the water. We have said that we could not see any object if it were not for the rays of light that it sends back to our eyes more or less strongly; we see all things by reflected light. Very clear glass lets nearly, but not quite all the light pass through so that we can scarcely see it, but only see what is beyond it. We call it *transparent*.

But beautiful and wonderful as light is, and dearly as we love it, it is not nearly all that the sunbeams bring us. When they are separated into the rainbow colors by the prism, besides the six bright rays you see there are other dark rays that, like invisible fairies, are working for our good. When the morning sunlight first shone into the dining-room I have been telling you about, it was quite cold there, though a fire had just been lighted in the grate. But, as a good many of the sunbeam visitors came trooping in, it grew cozy and warm, and when Muff, the cat, slipped into the room while no one saw her, she went and sat down in the sunny window-seat instead of near the fire. Then the sunbeams brought heat as well as light. They bring so much that if we take a lens or piece of glass cut to bend or *refract* them, so that many will fall on one point, the heat is so great that it will even set fire to tinder. Beside the light and heat rays there are others having a power that is, in some respects, more wonderful still. But we have not time to talk of these now, only remember that besides the beautiful light rays of the sun, there are dark rays no less powerful, and that without them the world would be a cold and desolate place where neither man, nor animal, nor plant could live. Even the heat of a coal fire is only stored up sunshine, but that is a long story. However it is quite true, that when a little boy and girl came to breakfast in the room of which we have been talking, and spread out their hands to the glowing fire, they were really being warmed by the sunshine of hundreds and hundreds of years ago.

LANGUAGE AND PICTURES.

(Report of lessons given in the primary department of school No. 16, Brooklyn, Leonard Dunkley, principal, Miss Davis head of department.)

The teacher holds up a book and asks what do you see?

"I see a book."

I will write what you have said on the blackboard. Now what do you see? (Holding up two books).

"I see two books."

I will write what you say about the books. How have I changed the word book?

"You have added *s*."

What do you see? (Holding up one hand).

"I see a hand."

Peter may come and stand beside me and hold up one hand. Now what do you see? (Holding up both hands.)

"I see three hands."

I will write what you say. What have I added to the word 'hand'?"

"You have added *s*."

The teacher then shows a box and afterwards *three* boxes, and asks what must I add to box to make it boxes?

The children hesitate, but one little fellow triumphantly says, "You must add 'es."

The teacher hands a book to a child and says, "Tell what Harry has and use his name."

"Harry has a book."

Tell me the same thing and use a little word instead of "Harry."

"He has a book."

Two boys are sent to the blackboard to write, and one of them is told to tell what they are doing. Mentioning his companion's name.

"Albert and I are writing."

Now tell the same thing and do not say Albert.

"He and I are writing."

Tell the same thing and do not say "Albert nor I."

"We are writing."

Some one else may tell what these boys are doing and call them by name.

"Walter and Albert are writing."

Tell what they are doing and do not say their names.

"They are writing."

Charles may come and tell me three things he sees on my desk.

"I see a book and a slate and a ruler."

What was wrong?

"He said 'and' twice."

Harry may come and tell me of four things on my desk.

"I see a book, a slate, a ruler, and an ink bottle."

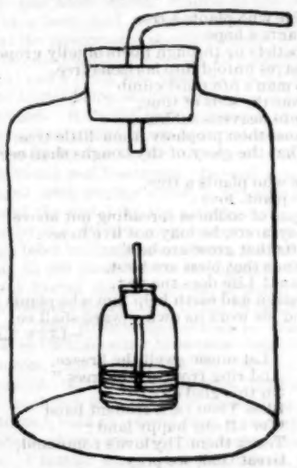
This lesson was given in a 7th grade room; in other rooms, 7th and 5th grades, several pretty stories were told by the children; partly reproductions, and partly inventions.

The teacher having used, as a basis, the subjects of chromos hanging on the walls of several of the class rooms; a little girl described a picture thus: "There were three little girls who went out in the fields and picked violets. It was their sister's birthday so they made a wreath and put it on her head and brought all their violets to her."

SIMPLE EXPERIMENTS WITH AIR.—III.

By R. H. CORNISH, Montclair, N. J.

Exp. 16. You remember the apparatus we used in Exp. 14—a large bottle with rubber stopper to fit, a glass tube in stopper and a rubber tube on the glass tube; a small bottle to go inside of the large one, a one-hole rubber stopper to fit small bottle, a glass tube drawn to a fine point to pass through small stopper. Fill small bottle half-full of water. Place stopper in small bottle, glass tube being in stopper jet outward. Make sure that the end of the tube reaches below the surface of the water. Place the small bottle inside of large bottle and



the large stopper in its place as described. Now pump out the air in the large bottle by "suction." If you have learned to do this, and it is not difficult, you will find the water spurting up in jets from the little bottle. Why is this? Here as before we find that *air expands when released from pressure* and drives the water before it.

Exp. 17. We can vary the experiment given above in this way. Bend in the alcohol flame a tube and insert it in place of the straight one in the stopper of the small bottle. It may look like this cut. Put a little water in

the large bottle and your small bottle, as described, in it. If you are not careful you will make the bend too large and then the small bottle will not go inside the large. Now pump out the air as before, and notice that if all is air tight the water is flowing from the small bottle into the large one; and notice that when you let the air into the large bottle again the water flows back with a rush into the small one.

Exp. 18. If you put some strong soap suds into a large bottle, and nearly fill it with bubbles by blowing into the suds with the rubber tube and then replacing the stopper, pump out the air, you can illustrate the same thing. Notice how the bubbles increase in size as you pump the air out.

Exp. 19. Take an Argand lamp chimney and fit a rubber stopper in the small end, as you did for pumping out the air from the bottle. Moisten the palm of your left hand and grasp the chimney near the top with your right hand in such a way as to leave your thumb and fore-finger free to act as stop-cock to your rubber tube. Press the large end of the chimney down firmly on your left hand with your right, and pump out the air. After one or two strokes you can give the attention of your right hand wholly to its business as stop-cock. But meanwhile what is happening to that part of your hand under the chimney. It is swelling up ¼ inch or more, turning red, and smarting a little. Make as complete a vacuum as you can and still your hand tends to swell up under the chimney. Now carefully turn your left hand over, bringing the palm downward and you will see that the chimney does not drop off. Why was this? I think you can answer: *The pressure of the outside air, being greater than the tension of the air inside the chimney, holds it fast to your hand.* But why did your hand swell into the chimney? The reason is this, and it is very important: Your body, every portion of it, is under the pressure of the outside atmosphere. This pressure has been found to be about equal to 15 lbs. per square inch. When you pump out some of the air from the chimney you diminish this pressure, and then the air and gases of which your blood is filled expand and force the skin into the chimney a short distance.

Exp. 20. Take a bit of candle an inch long and after moistening the palm of the hand, light the candle and place it in your palm. Take a small bottle with a large mouth, a vaseline bottle, for example, and placing it over the candle hold it firmly on the hand for a moment. The candle goes out, but what is happening to your hand? It behaves as it did before and soon you can turn your hand over and the bottle will not drop off. Can you explain this? Here the heat of the candle rarefies the air, and when the air cools again the tension in the bottle is less than it was before, and so the outside air holds the bottle fast to your hand. Can you tell what the process of "cupping" is? Look for this in the dictionary.

Exp. 21. If you have a rubber stopper on which you can set the Argand burner you can make a still more striking experiment. Fill a bottle with water and crowd this large stopper into it. If the stopper has a hole in it so much the better; for, as you crowd it in the bottle, the air or water of the bottle will come out of this hole and not react to drive the stopper out. Pour a little sweet oil on the edge of this stopper, and then hold the Argand chimney down firmly on the stopper and pump out the air. The sweet oil around the edge of the stopper makes the connection air tight. When you have pumped out as much air as possible carefully lift with your left hand the chimney and you will lift the bottle too. Can you tell why? *The air holds the two objects together.* This experiment may serve in place of "Magdeburg hemispheres" of larger laboratories.

Exp. 22. Most boys are familiar with "the sucker," which is a circular piece of thick leather about 3 inches in diameter with a string attached to the center. Soak the leather in water until it becomes pliable, then press it down firmly on a brick or flat stone. You can lift the brick or stone if it is not too large—at any rate, you will have difficulty in pulling it off. You ought to be able now to explain why this is. Do you lift the brick or does the air lift it?

Exp. 23. Take the longest tube or tallest bottle you can find and fill it with water. Lay on it, in contact with the water, a piece of paper, and carefully invert the bottle, placing the neck under the surface of the water and withdraw the paper. The water remains in the bottle, for the same reason that it remains in the tumbler when inserted with a card over it; because the upward pressure of the air is greater than the downward pressure of the water.

Exp. 24. Have you ever made a siphon? You can make one easily with a rubber tube by putting one end in a basin of water and the other in your mouth, and taking one quick "suck" on the tube and pinching it. Now put the pinched end below the level of the water in the basin and stop pinching it. If the side of the basin is not too high the water will flow at once. If it does not you must take one or two more strokes with your air pump, when the water will flow up over the bend and out the tube as long as the end outside the water is lower than the end in the basin. Here the water flows in the direction of the longer water column, being forced that way by the air pressure.

SUPPLEMENTARY.

The teacher will find material here to supplement the usual class work. If rightly used it will greatly increase the general intelligence of the pupils, and add to the interest of the school-room.

ARBOR DAY AND SPRING-TIME EXERCISES.

(The teacher should interest the pupils in Arbor day, and encourage them to make plans for the exercises. Every pupil should have something to do. If there is an awkward, bashful boy who cannot speak or sing let him have a post of honor at the tree planting.

The teacher should ask the children to make drawings of different trees, and these may be exhibited in the school-room. The children may ask their friends and relatives, the minister or any other prominent man in the town, to write a letter about trees. They may also write to some author and ask him for a letter on the subject. A few of there sentiments may be read at the exercises.

The exercises will consist of two parts, those in the school-room and those at the tree. At a signal the school rise and march in good order, singing. Each pupil should carry a small branch of a tree, which they wave as they sing. Arrived at the tree, they form a large circle around it. A platform should be in readiness for the teacher; an invited speaker should talk about the origin and importance of keeping Arbor day. Each pupil should help plant the tree. Two or three of the older boys may have the matter in charge, and each child should step up in turn and throw a little earth in the hole.)

Everything should be in readiness, so there need be no delay. If the tree is to be dedicated to some particular person, for instance, to the poet Whittier, his name should be placed in a conspicuous place on the tree.)

EXERCISES IN THE SCHOOL-HOUSE.

RESPONSIVE EXERCISE.

Teacher.—And God said, Let the earth bring forth the fruit tree, yielding fruit after its kind.

School.—And the earth brought forth the tree, yielding fruit whose seed was in itself after its kind. And God saw that it was good.

Teacher.—And God said, Behold I have given you every tree in the field which is the fruit of a tree yielding seed; to you it shall be for meat.

School.—And the Lord God planted a garden eastward in Eden, and there put the man whom he had formed. And out of the ground made the Lord God to grow every tree that is pleasant to the sight and good for food.

ADDRESS OF WELCOME.

(This may be given by one of the older boys.)

RECITATION:—"Woodman Spare that Tree."

SINGING:—"Spring." Page 217.

IN PRAISE OF TREES.

Teacher.—I would like to hear some quotations from the many beautiful things that have been said in praise of trees.

FIRST PUPIL.—There is something nobly simple and pure in a taste for the cultivation of forest trees. It argues, I think, a sweet and generous nature to have this strong relish for the beauties of vegetation, and this friendship for the hardy and glorious sons of the forest. There is a grandeur of thought connected with this part of rural economy. It is, if I may be allowed the figure, the heroic line of husbandry. It is worthy of liberal, and free-born, and aspiring men. He who plants an oak looks forward to future ages, and plants for posterity. Nothing can be less selfish than this.

—WASHINGTON IRVING.

SECOND PUPIL:—

If I could put my words in song,
And tell what's there enjoyed,
All men would to my garden throng,
And leave the cities void.
In my plot no tulips blow—
Snow-loving pines and oaks instead;
And rank the savage maples grow
From spring's faint flush to autumn's red,
My garden is a forest ledge,
Which elder forests bound;
The banks slope down to the blue lake edge,
Then plunge to depths profound.

—EMERSON.

THIRD PUPIL.—Is there any other place, except the seaside, where hours are so short and moments so swift as in a forest? What else, except in the rare communion of those friends much loved, do we awake from pleasure whose calm flow is without a ripple, into surprise that whole hours are gone which we thought but just begun, —blossomed and dropped, which we thought but just budding.

—H. W. BEECHER.

FOURTH PUPIL.—

I care not how men trace their ancestry,

To ape or Adam; let them please their whim,
But I in June am midway to believe
A tree among my far progenitors,
Such sympathy is mine with all the race,
Such mutual recognition vaguely sweet
There is between us.

—LOWELL.

Recitation: "Planting of the Apple Tree."—BRYANT.

READING OF LETTERS ABOUT TREES.

(A number of pupils may take part in this.)

USEFULNESS OF TREES.

Essay.—"Some Reasons Why we Should Plant Trees."

(Suggestions: Their use in building our homes, ships, and vehicles; the immense value of the forests of the United States, worth $700,000,000 every year; trees are also useful in preventing miasma, and in inducing rainfall. These subjects may be treated in three separate essays, if preferred.)

So the deacon inquired of the village folk
Where he could find the strongest oak,
That couldn't be split, nor bent, nor broke—
That was for spokes, and floors, and sills.
He sent for lancewood to make the thills;
The cross-bars were ash, from the straightest trees;
The panels of white-wood, that cuts like cheese,
But lasts like iron for things like these;
The hubs from logs, from the "settler's ellum"—
Last of its timber—they couldn't sell 'em—
Never an ax had seen their chips,
And the wedges flew from between their lips,
Their blunt ends frizzled like celery tips;
* * * * *
That was the way he put her through,"
"There!" said the Deacon, "naow she'll dew!"

—O. W. HOLMES.

Covering many a rood of ground,
Lay the timber piled around;
Timber of chestnut, and elm, and oak,
And scattered here and there with these,
The knarred and crooked cedar knees;
Brought from regions far away,
From Pascagoula's sunny bay,
And the banks of the roaring Roanoke!
Ah! what a wondrous thing it is
To note how many wheels of toil
One thought, one word can set in motion!
There's not a ship that sails the ocean,
But every climate, every soil,
Must bring its tribute, great or small,
And help to build the wooden wall.

—LONGFELLOW.

Essay.—"Some Historic Trees."

(Suggestions: The Charter Oak at Hartford, Conn.; The Washington Elm at Cambridge, Mass.; The Liberty Elm at Boston; The Burgoyne Elm at Albany, etc.)

BUILDING THE BIRCH CANOE.

FIRST PUPIL:—

"Give me of your bark, O birch tree!
Of your yellow bark, O birch tree!
Growing by the rushing river,
Tall and stately in the valley!
I a light canoe will build me,
Build a swift Cheemaun for sailing,
Thou shalt float upon the river,
Like a yellow leaf in autumn,
Like a yellow water lily!
* * * *

SECOND PUPIL:—

And the tree with all its branches
Rustled in the breeze of morning,
Saying with a sigh of patience,
"Take my cloak, O Hiawatha!"
* * * *

THIRD PUPIL:—

"Give me thy boughs, O cedar!
Of your strong and pliant branches,
My canoe to make more steady,
Make more strong and firm beneath me!
Through the summit of the cedar
Went a sound, a cry of horror,
Went a murmur of resistance,
But it whispered, bending downward,
"Take my boughs, O Hiawatha!"
Down he hewed the boughs of cedar,
Shaped them straightway to a framework,
Like two bows he formed and shaped them,
Like two bended bows together.

FOURTH PUPIL:—

"Give me of your roots, O Tamarack!
Of your fibrous roots, O larch tree!
My canoe to bind together
That the water may not enter,
That the river may not wet me!"

FIFTH PUPIL:—

And the larch, with all its fibers,
Shivered in the air of morning,
Touched his forehead with its tassels
Said, with one long sigh of sorrow,
"Take them all, O Hiawatha!"

SIXTH PUPIL:—

"Give me of your balm, O fir tree!
Of your balsam and your resin,
So to close the seams together
That the water may not enter,
That the river may not wet me."

SEVENTH PUPIL:—

And the fir tree, tall and somber,
Sobbed through all its robes of darkness,
Rattled like a shore with pebbles,
Answered wailing, answered weeping,
"Take my balm, O Hiawatha!"

ALL:—

Thus the birch canoe was builded
In the valley, by the river,
In the bosom of the forest;
And the forest's life was in it,
All its mystery and magic,
All the lightness of the birch tree,
All the toughness of the cedar,
All the larch's supple sinews;
And it floated on the river,
Like a yellow leaf in autumn,
Like a yellow water lily.

—LONGFELLOW.

EXERCISES AT THE TREE PLANTING.

Teacher.—Since we have been thinking about Arbor day some of you have been studying up the best method of tree planting. Henry will you tell us how you prepared the hole for the tree?

"The hole was made before the tree was brought here, which was the proper way. You see that the hole was made somewhat deeper and larger than seems necessary, so that the rains may penetrate the soil and the little rootlets have a chance to grow. We took the top soil, which is richer than the soil below, and place it on one side. This should be placed in the bottom in filling the hole. We were careful to keep all stones out, though these may be used above the roots or on the surface."

Teacher.—What is the proper way to plant this tree, James?

"It is best done by three persons, one to hold the tree, and two others to spade the earth under his direction. Great care should be taken that the tree is not set in too deep. While the director holds the tree perfectly straight, with the side bearing the fullest branches toward the south or south-west, the assistants spread out the roots with care. Then small spadefuls of earth should be carefully thrown over the roots, while the director slightly shakes the trunk, causing the earth to settle. After the soil is packed so as to keep the tree in place the earth should be trodden down firmly."

Teacher.—Theodore, what can you tell us about watering and after-care of the tree?

"It is not a good plan to water the tree while planting, unless the water is carefully applied with a "rose" after the soil is well filled in and packed around the fibrous roots. During the hot season the trees should be watered in the late afternoon or in the evening. Waste material—hay, straw, chips, sawdust, etc.—if placed around the roots is of excellent service in checking evaporation. The ground should be kept free from weeds, and it should be occasionally hoed or raked. A tree-box will keep the tree safe from accidents.

WHITTIER EXERCISE.

1. Sketch of the poet's life.
2. Gems from Whittier.
   (These should be selected by the children.)
3. *Singing:*—"Tribute to Whittier."
   (Page 31, "Song Treasures.")
4. *Recitation:* "Jack-in-the-Pulpit."
   (Any other suitable selection may be used.)

TREE-PLANTING SONG.

By Emma S. Thomas, Schoharie, N. Y.

[*Tune:* "America."]

Grow thou, and flourish well,
Ever the story tell,
Of this glad day;
Long may thy branches raise
To heaven our grateful praise,
Waft them on sunlight rays
To God away.

Deep in the earth to-day,
Safely their roots we lay,
Tree of our love,
Grow thou, and flourish long;
Ever our grateful song
Shall its glad notes prolong
To God above.

CONCERT RECITATION.

"He who plants a tree
Plants a hope.
Rootlets up through fibers blindly grope;
Leaves unfold into horizons free.
So man's life must climb
From the sods of time,
Unto heavens sublime.
Canst thou prophesy, thou little tree,
What the glory of thy boughs shall be?

He who plants a tree,
He plants love;
Teats of coolness spreading out above
Wayfarers, he may not live to see.
Gifts that grow are best,
Hands that bless are blest.
Plant! Life does the rest.
Heaven and earth help him who plants a tree,
And his work its own reward shall be.

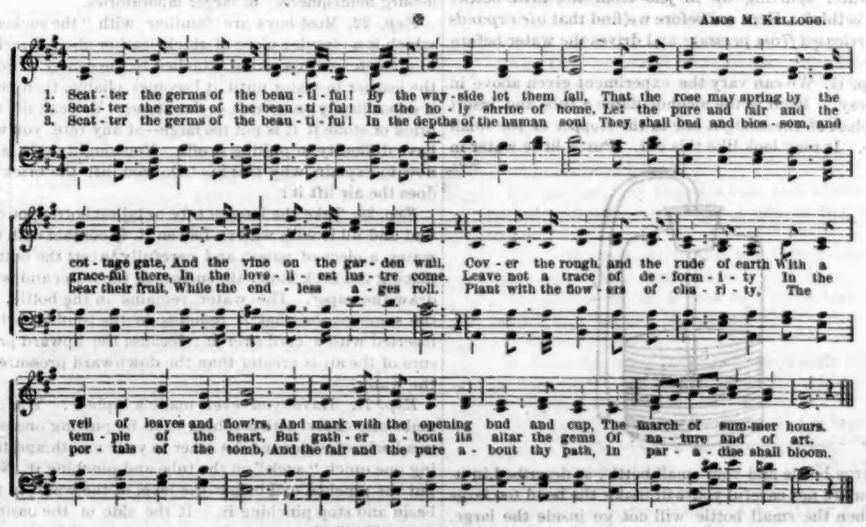
—LUCY LARCOM.

"Let music swell the breeze,
And ring from all the trees,"
On this glad day;
Bless Thou each student band
O'er all our happy land;
Teach them Thy love's command,
Great God, we pray.

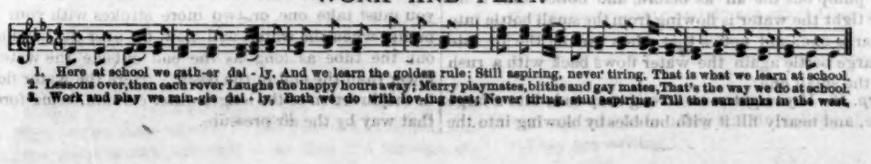
(*Dismission.*)

SCATTER THE GERMS OF THE BEAUTIFUL.

AMOS M. KELLOGG.



WORK AND PLAY.



IMPORTANT EVENTS, ETC.

Selected from OUR TIMES, published by E. L. Kellogg & Co.: price, 30 cents.

NEWS SUMMARY.

FEBRUARY 21.—The defeat of free coinage restores confidence in our securities in Europe.

FEBRUARY 22.—It is reported from San Francisco that the ship *Elizabeth* was wrecked on North Head, and eighteen lives lost.—Charles Foster, of Ohio, succeeds Mr. Windom as secretary of the treasury.

FEBRUARY 23.—A fight of hostile editors with pistols in Columbus, Ohio. Two men killed.—Dog show in New York.

FEBRUARY 24.—The U. S. house of representatives passes a bill to refund over $15,000,000 to the states, that was paid to the government as direct tax.—Paul Revere's house in Boston to be torn down.—A monument to Gen. Sherman to be erected in St. Louis.

FEBRUARY 25.—Jeffersonville, and other towns in Indiana swept by a tornado.—Gen. de Fonseca chosen president of Brazil.

FEBRUARY 26.—Ice gorges and freshets in the Mohawk, Hudson, Susquehanna, and other rivers.—Candidates for parliament nominated in Canada.

FEBRUARY 27.—The bill to take sixty million or more from the U. S. treasury to subsidize steamship companies defeated.

RESUME OF EVENTS FOR REVIEW.

FEBRUARY.

The most important discussion of the month in congress was the bill for the free coinage of silver. It is opposed almost unanimously in the East, while the measure finds much favor in the West. The result in congress was unfavorable to the bill. Several extravagant schemes were advocated by people who think that the government can and ought to do everything, especially for *them*. One of these was to pay back fifteen million to the states, this money having been paid as taxes during the war; another was that the government should become responsible for the one hundred million necessary to complete the Nicaragua canal; and a third was that the United States should grant aid to steamship companies to the extent of sixty million or more. It should be remembered that the money it is proposed to give to these doubtful schemes is paid into the treasury by the people. Reciprocity treaties were made with Brazil and Venezuela. Several congressmen were charged with buying silver in anticipation of large purchases of the metal by the government. A St. Louis judge rendered a decision that leaves a chance to evade the foreign labor contract law. Baron Hirsch gave over two million to aid poor Jewish immigrants to the United States. A heated election contest is going on in Canada, the question of reciprocity with the United States being uppermost. The British still refuse to evacuate Egypt. The war in Chili resulted in several victories for the insurgent forces. An insurrection in Portugal was promptly suppressed. African savages were imported to Germany to be employed as firemen on steamships. An underground railroad, built on a novel plan, was completed in London. Paris workmen are preparing for the Mayday demonstrations. A famine was reported in Silesia. The principal deaths were those of Admiral Porter, Gen. Sherman, and James Redpath.

QUESTIONS.

1. What is money? What gives it its value? Why is a banknote worth more than any other piece of paper?
2. What is a subsidy? Why is it a dangerous practice for the government to grant aid to private enterprises?
3. What is the present condition of the work on the Nicaragua canal?
4. How do the people pay taxes into the U. S. treasury?
5. How would people in the U. S. benefit by reciprocity with Canada?
6. Mention some products we get from Brazil and Venezuela.
7. Explain the object of the foreign labor contract law.
8. How long have the British occupied Egypt? What right have they there?
9. What is the present state of the rebellion in Chili? (See daily papers.)
10. To what languages is the Portuguese closely allied?
11. What are the advantages of having railroads, in cities, underground?
12. What is meant by the Mayday demonstrations?

THE FUTURE OF INDIAN TERRITORY.—Secretary Noble has decided that the Ind an government of the five nations in Indian territory will be ended just as soon as inhabitants of the territory who are citizens of the United States outnumber those who are not. For some time the half-breeds who are in citizenship have been trying to get hold of the reins of government; the natives regard such with distrust. A candidate on a "citizen Indian" ticket who was beaten wrote to the secretary and received a reply as above. If Mr. Noble's opinion holds good, the territory will be invaded by a great many citizens who have hitherto been kept out by the Chickasaws and other tribes. What tribes now live in Indian territory?

A BIG SILVER BELL.—A church bell of pure silver, weighing 715 pounds, has been cast in Kharkov in commemoration of the event of Oct. 17, 1888, when the emperor escaped from the bombebell exploded under his train on the railroad track. Tell about the party that opposes the rule of the Russian czar.

THE TOWER PROJECT.—A company has been formed with a million dollars' capital to build a tower at the world's fair at Chicago. Its height will be 1,492 feet. Within its base will be a hollow globe, 400 feet in diameter, on the surface of which the various countries will be depicted and around which an electric road will circle from bottom to top. The inside of the globe will be used for concerts. Describe the Eiffel tower.

SUMNER EULOGIZED.—At the Washington's birthday celebration in Brooklyn, George William Curtis paid an eloquent tribute to Charles Sumner's work. He said that the Puritan spirit, enriched with many nationalites, broader, more human, more liberal, is the master spirit of our national patriotism. There has never been a more perfect type of this than Sumner. A free country, he said, never heard sweeter voices speaking in the cause of liberty than those of James Otis and Samuel Adams, John Adams and Joseph Warren, Josiah Quincy, and Charles Sumner. What reform did Sumner advocate? Tell something about the men mentioned.

ENGLAND IN EGYPT.—In the British house of commons the under foreign secretary said he could not fix a date for the evacuation of Egypt. The British troops would be withdrawn as soon as good government was assured, and no danger of foreign occupation remained. Reports come from Suakin that many of the followers of Osman Digna, who were defeated recently, have surrended. For what is Egypt noted?

LONDON'S NEW RAILROAD.—A new railroad has just been completed in this great metropolis. It is constructed in two tunnels, consisting of great tubes (one for up trains and one for down trains) under the city, and the motive power is electricity. The tubes are each ten feet in diameter and are made of cast iron rings—that is six equal segments and a short keypiece. The flanges are three and one-half inches deep and one and one-fourth inches thick, and are riveted together by three-fourth inch bolts. The average depth of the tunnels is about 50 feet below the surface. The stations are reached by elevators from the street. Describe some of the railroads in use in American cities.

TWO NEW BRITISH WARSHIPS.—In spite of all the talk against war, and the holding of peace congresses from time to time, the nations continue to prepare for war. Two first class English battle ships were recently launched at Portsmouth, called the *Royal Arthur* and the *Royal Sovercign*. The latter is 380 feet long, 75 feet wide, and will go at the rate of about nineteen miles an hour. She will have forty-five guns, and an iron and steel armor eighteen inches thick. The *Royal Arthur* is 360 feet long and 60 wide, and will have fourteen guns. What nations have the strongest reserves?

ANNA DICKINSON INSANE.—This noted woman has become insane, and been taken to an asylum. She will be remembered by thousands who have heard her on the lecture platform. Of what reform was she an advocate?

PRESERVING THE NORTH WOODS.—The state of New York owns forest lands in the Adirondacks amounting to nearly a million acres, but in separate tracts separated by private holdings. It is proposed to purchase connecting strips and make one immense state park. The Forest commission is now gathering information, and will report to the legislature. The state will take measures to preserve this forest, the source of the Hudson river, on which the prosperity of New York City largely depends. Besides the five or six million people who will soon be located on and around Manhattan island will need this forest as a playground.

GEN. SHERMAN'S FUNERAL.—The funeral procession in New York consisted of distinguished men in carriages, U. S. army troops, the National Guard, the Grand Army of the Republic, etc. Prominent in the procession was the general's horse bearing his boots, sword, and other military accoutrements. Since his death Lord Wolseley, von Moltke, and other soldiers, have expressed the opinion that Gen. Sherman was the best strategist of the war on the Union side, and that he ranks among the greatest generals of the century. His "march to the sea" is considered a model for military students. What part did Gen. Sherman take in the battle of Shiloh?

GOLD IN NICARAGUA.—There is much excitement in Nicaragua over the success of some gold mines in Prince Pulks on the river of that name. One enthusiast says he has seen chunks of gold as large as his finger, and flat pieces as big as an egg. It is very difficult to get to the mines, as one has to pass dangerous rapids and thick jungles. What great work is going on in Nicaragua now?

OF SPECIAL INTEREST TO PUPILS.

TESTING SILVER COINS.—From every fresh lot of silver dollars made, a few are sent to the government assayer at Washington for testing. Each dollar must be nine-tenths silver, the remaining tenth being copper, and a variation of not more than one and one-half grains of silver is allowed. First, the dollar has to be rolled out thin in a machine, because when the piece is made the tendency of the silver is to go to the middle, leaving more copper and less of the precious metal on the outside. Then the thin strip of metal is passed through a machine operated by a crank. It comes out punched as full of holes as it can be, while hundreds of small circular disks about the size of a gold quarter fall out of the holes thus made to a tiny box below. Next the disks are taken out of the drawer and mixed up; a few of them are taken from the lot, and they, representing the average of silver, are subjected to chemical analysis.

A BIG TREE AT THE FAIR.—Arrangements are making to take sections of a big tree from Mammoth forest, Tulare county, California, 52 miles east of Tulare City, to the fair at Chicago. The tree is 99 feet in circumference, which would make it nearly 32 feet in diameter. It will be divided into three cuts, the first one being one foot in height and 20 feet in diameter. This but will be split once across, making two half rounds. The next cut will be seven feet in height by 20 feet in diameter, and will be hollowed out, leaving the bark and sap and about four inches of the timber. The last cut will be the same as the first, allowing all the timber to remain and only splitting once. The saw used in getting out the sections will be 22 feet long, and ten men will be engaged two months preparing them for shipment.

IMPROVEMENTS IN WAR VESSELS.—The last three of the U. S. battle ships are provided with an elastic and buoyant material which, when a cannon ball has penetrated the vessel, closes up and prevents water from entering. This material is to be carried at the water-line, both forward and aft, on the protective deck. The coal bunkers and curved steel deck also afford protection. One of the substances used is cellulose, which is cocoanut fiber ground and pressed into blocks. It will swell to such an extent when wet that it will close up a large hole in a ship, water tight. Many French ships use it. Another substance known as woodite, is made principally of india-rubber. It weighs eight or nine times as much as cellulose, but a much thinner layer is necessary.

LOADS OF BANKNOTES.—The building in which banknotes are made is situated at the U. S. capital, near the Washington monument. Day by day tons of crisp, new banknotes or silver certificates are sent from here, by careful messengers.

PREPARING THE MODEL.—A handsome pen-and-ink drawing of the proposed bill is generally made which is submitted finally to the secretary of the treasury for his approval. The banker demands that the denomination be plain and distinct, and that the figure in the note be placed in the upper right-hand corner in order to facilitate counting. The new twenty-dollar silver certificate bears the portrait of the late Secretary Manning; and a striking innovation is made, as the portrait, instead of being at one end of the note, is in the center, and is supported on the sides by the figures of Prosperity and Labor. The effect produced by the lettering and this new idea is very striking.

ENGRAVING THE PLATE.—No less than twelve men do this work. The portrait goes to one, the vignette to another, the lettering, script and border to others, and so on. The steel used is all imported from England, and is a remarkably fine grade. Engravers all over the world use English steel, and have done so for a century. Even the engraving tools are imported, being manufactured by a Parisian firm, which for many years has had a monopoly of the business. The engraving takes several months and then an impression of each section is taken on a solid plate of steel. Each separate part is placed in the position it would occupy on the note, and when the transfer is finally accomplished, the face of the new bill appears in perfect form. The plate is hardened, and across its engraved surface is passed a soft steel roller. The depressions of the plate appear on the roller as a raised surface, and when the little cylinder has been hardened it is a perfect die. It, in turn, is rolled by great pressure upon a plate of soft steel.

GUARDS AGAINST COUNTERFEITING.—This process not only allows any number of plates to be made, but guards against counterfeiting. Each face and each reverse of a note, being taken from the same die is exactly alike all others. In no other way could this result be reached. No engraver, be he ever so careful, could produce, without the variation of a hair's breadth, any work of his hands. For national bank notes the same die is continually used, the only fresh engraving being the name of the bank.

CORRESPONDENCE.

So many Questions are received that the columns of the whole paper are not large enough to hold all the answers to them. We are therefore compelled to adhere to these rules:

1. All questions relating to school management or work will be answered on this page or by letter. 2. All questions that can be answered by reference to *an ordinary text-book or dictionary* must be ruled out, and all anonymous communications rejected. The names of persons sending letters will be withheld if requested.

I have been a subscriber to THE SCHOOL JOURNAL for three years. I often find in it statements I cannot endorse. These are usually matters of personal judgment. It seems to me you do yourself injustice, if you will pardon the expression, by your occasional flings at the classics. But making all allowance for your heresy (?) in this regard I have received immense profit from the perusal of your paper. Not that you have added so much to my stock of information in my peculiar department, not that you have told me in so many words the best method of doing secondary work—this does not seem really within your province—but somehow you have lifted me up. No teacher, primary or secondary, indeed no man or woman can read THE SCHOOL JOURNAL without finding self-improvement a moral necessity. The tone of your paper is on the highest level, and its utterances are always worthy of the high aim every teacher should have in view. Speaking from personal experience, I find your editorials always inspiring and I know they have made me a better teacher. R.

Norfolk, Va.

My pupils are anxious to know why New Mexico was not made a state. E.

Until 1846 this territory was a part of Mexico and of course the population was of Spanish descent and spoke the Spanish language. Since its admission to the United States there has been a large admixture of English-speaking people, but it was claimed by many who objected to the admission of the territory that it was not yet sufficiently Americanized to warrant its admission to the Union. We suspect that politics had something to do with it. New Mexico's population in 1885 was 133,530, and in 1890 144,863, larger than that of either Idaho or Wyoming.

Why was the bald eagle adopted as the emblem of the United States? 2. Why is the house of representatives, either national or state, called the lower house and the senate the upper house? W.

1. We suppose it was on account of its great size, power, and love of freedom, and the fact that it is found throughout the whole of North America. 2. In Massachusetts, after the end of the provisional government, the people in 1775 chose in town-meeting representatives to the general assembly and this assembly chose twenty-eight members to sit as an upper house or council. After the Revolution the council was retained, but in a somewhat altered form. The Americans had been used to having the acts of their popular assemblies reviewed by a council, and so they retained this revisory body as an upper house. As the fashion of copying names and titles from the ancient Roman republic was then prevalent the council became known as a senate. This was considered to be a more dignified body than the house of representatives, the property qualification was higher, and generally the terms of service were longer.

1. Bound Oklahoma territory and give capital of same. 2. Explain what is meant by the term "trusts." J. R. G.

1. See SCHOOL JOURNAL Dec. 20. 2. Trusts are combinations of corporations or capitalists, as those of the sugar or leather manufacturers. Lately a combination of railroad corporations (making a railroad trust) was formed. The capitalists claim that the exigencies of business call for trusts, but their critics assert that their purpose is to crush competition, thus enabling them to greatly increase prices.

1. Of what matter is the sun composed? 2. Does the sun move? D. W. K.

Mt. Carmel, Pa.

1. The materials are essentially the same as those composing the earth, but instead of being solid in the earth, they are in a gaseous state. 2. It was believed that the sun was stationary, but it is now conceded that the sun and all the planets are moving with great velocity through space, the direction being toward the constellation Hercules.

If a man escapes from the United States to Canada is there a law for his recapture? W. D. S.

The United States has experienced great difficulty in recent years in securing the return of prisoners who escaped to Canada. Even in cases covered by treaty the courts' interposed, and well substantiated the poet's remark concerning "the law's delay." Lately, however, an extradition treaty was agreed to, covering all important crimes, but not political offences. Since then Canada, as a resort for criminals from the United States, has lost its popularity.

What would be the result if the earth should stop revolving on its axis? G. W. M.

Kansas City, Mo.

The part of the surface turned toward the sun would have perpetual day, the other part would have perpetual night.

IDEAS AND SUGGESTIONS FROM THE SUPERINTENDENTS' ASSOCIATION.

PHILADELPHIA, FEB. 24-26.

UNIVERSITIES AND SCHOOLS.

State Supt. Cooper, of Texas, said: "In the present stage of development of this country, I am compelled to believe that the public school is of more importance to the national life, at least to its immediate future, than its universities."

"Let the universities take hold in an earnest, vigorous way of the problems of how best to train teachers; let them make the training of teachers an important part of the universities' work. The teachers of the United States would, I am sure, greet with proper appreciation and gratitude a movement on the part of our universities toward the recognition of their work as one of the leading learned professions, a recognition which will be secured by the establishment in these universities of properly equipped, well manned *Schools of Pedagogy.*"

President Webster, of Union college, thought that "the colleges put too much on the lower schools by constantly raising the requirements of admission, until now the demand for less years in college instruction is on the increase. *The high schools should only teach what is necessary for admission to colleges as soon as possible.*"

ART EDUCATION.

Dr. MacAlister of the Drexel institute, thought that "the putting of industrial training into the schools is a great step in this direction, and will surely give a higher idea and a nobler purpose to the labor of common life. The putting of art education into the schools side by side with industrial training will not only give dignity to labor, but also permit the human feelings born of labor to find adequate expression."

Goethe says: "The beautiful is greater than the good, for it includes the good and adds something to it. It is the good made perfect and fitted with all collateral perfections which make it a perfect thing. While we are broadening our system of education on the utilitarian side, we must not forget that the right enjoyment of life—that is, the exercise of the higher faculties—is as much a function of living as earning one's daily bread; and for our education to be useful, in the true sense of the term, we cannot ignore the training of the esthetic faculties, as much for moral as for practical ends."

"What kind of objects shall we give the children to study for the development of the ideas to be expressed? It is not unfrequently claimed that the interest of the child should be the guiding consideration here. That the interest of the child should be secured is not to be questioned, but it would be a great mistake to assume that this should be the only consideration."

"The beautiful is the end sought; and the appreciation of the highest beauty in nature is realized only when it is perceived that the various objects in nature are fashioned upon certain type forms which express unity and purpose as the highest truths in nature—truths that transcend all material manifestations and witness the supreme, eternal power that lies back of, and gives life to nature. The natural objects are very few that express this truth, this beauty of nature in all their details. They become beautiful only as they are seen in their typical relations. It is one of the functions of art to present the objects of nature not in their accidental, but in their typical relations. In other words to interpret nature in her highest aspects, not simply to imitate her in her details. Hence the art study of nature becomes largely subjective, and is very different from the objective study of nature for the purposes of science."

Supt. Balliet said that "in order to cultivate art we must put it into the souls of teachers. We cannot have art education as long as we have cheap teachers. The only way to get good teachers is on the ground of fitness. The hand of politics must be kept out of the selection of teachers. It is useless to talk of art education until this can be done."

Dr. J. H. Hoose believed in art education in its broadest sense. "It is not form that makes the subject beautiful—it is the spirit which shines through the form. He did not believe in accuracy in art. In a child art is a spontaneous spirituality, but when he goes to school he is surrounded with regulations that stiffen his spirituality."

Frank Aborn, of Cleveland, believes that drawing is the language of form, and in its employment as a means of recording mental images, describing imaginary aspects of imaginary objects, it attains its highest office. The process by which this is done is simplicity itself. Beginning with such forms as will enlist the child's cooperation, and proceeding from this to the work of consummate artists, the child is given problems to describe, given aspects of specific objects.

Supt. Charles E. Gorton, of Yonkers, N. Y., held that the imagination can be drawn upon only so far as it is stored with knowledge. The only way by which the ideals pointed out can be obtained is to bring people who are trained to teach those things, at the outset.

THE PREPARATION OF TEACHERS FOR THEIR WORK.

State-Supt. Sabin, of Iowa, president elect of the department suggested two ways of increasing the efficiency of the normal school: First, by raising the entrance standard, and by increasing the requirements for graduation.

Regarding the elementary preparation of teachers for their work, he continued, three things should be said:

First. Teachers should be carefully trained to know and regard the laws which pertain to sound physical health. The body of the child is of as much consequence to him as his mind, and the teacher has no more right to trifle with one than he has with the other.

Second. The individual peculiarities of each child, his wants and his capacities, demand of the teacher close thought and observation.

Third. In order that his instruction and discipline may as far as possible counteract the influences that are fast warping the life of the child out of all comeliness and symmetry, attention to the environment and home life of the pupils cannot be safely neglected.

COMPULSORY SCHOOL LEGISLATION.

Supt. Dougherty believed that the "public sentiment among educational men remains loyal to the great principle of the right of every child to an education. What the final action of the legislature upon the subject will be is impossible at this writing to determine. Undoubtedly a strong effort will be made for a complete repeal, but it is safe to say that such a proposition will not prevail. It is hoped that they will be able to prevent any serious impairment of the efficacy of the statute. The danger is that the politicians may be frightened into temporizing by the fear of losing the ignorant vote."

State-Supt. Hancock, of Ohio, was proud that Ohio has a law that compells children to go to school. In this respect it is different from the laws of Illinois and Wisconsin.

Geo. H. Martin, state agent of the Massachusetts board of education, said that "the success of Massachusetts in educating her people has not been achieved chiefly by compulsion. The progress which the state is making now is not in the line of compulsion. In the quality of school buildings, in the consolidation and organization of country schools, in courses of study, in methods of instruction in all grades, in supply of illustrative material, in closeness, intelligence, and efficiency of supervision, in evening schools, in high school attendance, in industrial drawing, in the diffusion of pedagogical knowledge and the development of a professional spirit among teachers, in popular acceptance of progressive measures, in close and cordial relations between local and state officials—more advance has been made in the last ten years than in any previous ten. The motive to all this advance is not law, it is the good will of the people."

Thomas B. Stockwell, state-superintendent of Rhode Island, said: "In regard to the opposition to compulsory education, it is not a question of religion—it is based on a desire of the foreign population to perpetuate their language and customs, and it is this we have to oppose. It is the right and the duty of the nation to insist that the children of this country shall be taught one language, and only one language."

QUALIFICATION AND SUPPLY OF TEACHERS.

Supt. W. C. Anderson, of Milwaukee, said that "fitness is not analyzable into any other elements than intellectual attainments, refined and cultivated character, and professional capacity and skill, either trained or developed by experience. No other modifying or conditioning circumstances, no question of sex, nationality, or residence, politics or religion, should be allowed to offset the elements which constitute superior fitness.

"Liberal salaries are quite as attractive to the half-educated novice, and the incompetent of varied trials and many failures, as they are to the well trained and successful. Where the inducements are such as to encourage and reward the most capable there should be strong safeguards against the presumptions of the unworthy.

"A weak and defective policy under which so many new teachers are employed must impair the work of the schools, and, in the course of time, operate as an insurmountable obstacle to progress and improvement. On the other hand, a thorough, efficient and practical system of supplying all vacancies with the best talent procurable, and this without regard to any consideration ulterior to the prime object of good teaching, must raise and improve the standard of public education."

THE EDUCATIONAL FIELD

SAMUEL T. ALBRO.

Samuel T. Albro was born in Coventry, R. I., where he received his early education. After fitting for college in the seminary at East Greenwich, he entered Brown university, from which institution he was graduated in 1866. His teaching record is as follows: Principal of Lewis academy, Southington, Conn., three years; vice principal of academic department of the Union school, Jamestown, N. Y., seven years; principal of Union school, Forestville, N. Y., one year; superintendent, Norwich, N. Y., six years; teacher of natural sciences in the Fredonia state normal school, three years; and since 1886, state institute conductor. During the time he has been conductor he was appointed superintendent of Indian schools by President Cleveland. At the expiration of his term of office he was re-appointed to his old place by Supt. Draper, and since that time has been active in the service of the state. The characteristics of Mr. Albro are good judgment, clearness of statement, and sound sense. He has no special hobby, but impresses one as an "all around" teacher. He never does or says a foolish thing. Wherever he holds an institute he makes friends for improved education, especially among the thinking portion of his hearers. At the close of an institute a higher value is certain to be put upon him than when he began it. Mr. Albro cannot be said to be either an old or new education man. His natural caution makes him conservative when he is only thinking. When he makes up his educational mind it is certain to be on the side of sound progress. We have far more to hope for from such men than from those who jump at conclusions only to jump off again when the wind changes, or the weather is unfavorable for active out-door exercise. In his service at the institutes he pronounces most emphatic opinions against the moss-encumbered methods of teaching that yet prevail in many parts of the state of New York.

THE Illinois Reading Circle has adopted the following course of study for the ensuing year:

TEACHERS' CIRCLE.

"Page's Theory and Practice of Teaching."
"Psychology and Education." (Baldwin's.)
"Hawthorne and his Friends."

PUPILS' CIRCLE.

Primary.

"Sea Side and Way Side."
"Little Folks of Other Lands."

Intermediate.

"Eggleston's Primary United States History."
"Flyers, Creepers, and Swimmers."

Advanced.

"Greek Heroes."
"Burroughs and Thoreau."

UNDER an act of the present congress the government appropriated a certain amount of money for the endowment and support of colleges for the benefit of agricultural and mechanic arts. Secretary of the Treasury Noble has insisted that the money Virginia receives under this act shall be divided equally between the agricultural and mechanical college for whites at Blackburg, and the normal school for colored people at Hampton. The school funds of the state are divided between the two races according to the school population, which gives the white people two-thirds of the money and the colored people one-third of it. The governor has divided the federal appropriation in the ratio, notwithstanding the provisions made by Sec. Noble.

A CONFERENCE of teachers and all who are interested in manual training will be held in Boston, April 9, 10, and 11, 1891. Its aim will be to communicate all information derived from experience in this department of school work. There will be exhibits from the kindergarten, in clay-modeling, cooking, light wood-work (sloyd), carpentry, wood-turning, wood carving, molding and casting, chipping and filing, and machine tool work. Contributions are invited from all parts of the country. Any who are interested may communicate with the chairman of the committee, Mr. Edwin P. Seaver, Mason St., Boston, Mass.

MR. HENRY R. RUSSELL, who has been principal of the Deptford school, Woodbury, N. J., for twenty years, has resigned that position to become visiting teacher in Greenwood seminary, at Millville, Pa. Mr. Russell is a diligent student of the theory and practice of teaching, and is particularly interested in manual training, elementary science, and teaching as a profession.

THE Suffolk county, N. Y., teachers met in Greenport Feb. 20 and 21. As THE JOURNAL stated not long ago, these teachers had resolved at a previous meeting to study Welsh's "Psychology," and Feb. 20 was the day when the first lesson was to be recited before Instructor F. C. Barder. One lady remarked: "No one was very thoroughly *psychologized*," but there was a spirit abroad that meant study, thought, and hard work in the future. The meeting was a success.

PRESIDENT JAMES K. POWERS, A. M. of Florence, Ala., president of the state normal school, says: "We cannot do without your papers." This is but one of many similar letters that come to this office about THE SCHOOL JOURNAL and THE TEACHERS' INSTITUTE.

THE teachers of Potter county, Pa., were in session February 18, to discuss methods of mind training and topics of interest and benefit to the profession generally. Such meetings are evidence of enthusiasm and THE JOURNAL is hoping for the time when every county will have its regular monthly meeting.

THE Cairo, Ill., public schools are in a flourishing condition under the management of Supt. T. C. Clendenen. The high school is on the accredited lists of N. W. university, Adrian (Mich.) college, and Illinois college.

THE geographical society of the Brooklyn institute opened a novel exhibition this week in the Arcade building, corner of Fulton and Tillary streets. It consists wholly of maps, globes, diagrams, text-books, and illustrative material of use to teachers of geography. Fifty European firms have sent nine hundred exhibits. Our own country will be fully represented, sixteen publishers in New York City alone contributing. One of the novel contrivances is a device to illustrate the ocean currents and the effect of the prevailing winds upon them. It consists of a bas relief representation of the bed of the Atlantic ocean. Water is forced through tubes so as to flow in the same direction of the ocean currents; then by means of a bellows air is blown over them. The effect is easily perceived, and an idea of ocean currents may be conceived that could not be had in any other way.

No such collection of geographical material has ever before been gathered and it is expected that every teacher and pupil in New York, Brooklyn, and adjacent towns will carefully study and profit by it before it closes April 2.

JOHN WILEY, one of the wealthiest publishers in the country, died at his residence at East Orange, N. J., on Saturday, Feb. 21. He came of Revolutionary stock and was one of the "Sons of Liberty," a society whose members took a hand in the pulling down of King George's statue in Bowling Green, New York.

Mr. Wiley's first important publications were Fenimore Cooper's stories which were followed by other works of similar strength and standing, among them being John Ruskin's. In later years the firm of John Wiley & Sons has devoted its facilities to the publication of a high class of technical and college text-books for which teachers throughout the country owe much to the discrimination and energy of Mr. John Wiley. It was one of his rules never to publish a book simply for the money there was in it. It had to possess an educational value of high degree. Few publishers have done more to discourage the circulation of trite matter and substitute pure and elevating literature than Mr. Wiley. These rigid principles secured for him not only the respect of his fellow publishers, but the support of the best contemporary writers. Mr. Wiley often said that he valued money—but he invariably insisted that it be *clean* money. Such houses as the one he founded give dignity and honor to the publishing business.

NEW YORK CITY.

THE last of a series of lessons on the kindergarten songs and games was given by Miss Harriet S. Jenks, of Boston, at the Workingman's School, 109 West 54th street, February 28. The class consisted of kindergartners, mothers, and others interested in child-culture. Special attention was given to the finger plays introducing the gestures descriptive of flowing streams, growing plants, opening flowers, and many forms of animal life, birds, fishes, insects, domestic animals, etc. Human interests were represented by the trade games—carpenter, baker, etc.,—and by songs of family life. Altogether a good general idea was given of the breadth of observation and sympathy promoted by the kindergarten, and its value on the intellectual side, in stimulating perception and the habit of comparison. Miss Jenks, who is very favorably known to those who use her popular song-book, is associated with Miss Garland's kindergarten in Boston. Three good rules, useful not only to kindergartners, but to all who make themselves the companion of children, were given by Miss Jenks: "Remember that these are *games* and we are the playfellows. Alternate lively and quiet games. Alternate games in which one takes a prominent part, with those in which all join."

THE charity organization society of New York City, recently adopted a resolution recommending colleges, theological, legal, medical, and other schools to add to their usual courses of study, information as to charity organization; prison reform to be illustrated by visits to charitable and correctional institutions and actual investigations of the dwellings and conditions of the poor.

THE second informal dinner of the Association of Graduates of State Normal Schools was held Saturday, February 28, at Clark's restaurant, New York, over thirty graduates being present, representing the Albany, Oswego, Trenton, and Cook Co. normal schools. Secretary Chas. J. Majory, of East Orange, N. J., spoke of the future of the normal school. Jos. H. Palmer, of Yonkers, showed the importance of teaching truth and honor in the school-room and Prin. W. J. Ballard, of Jamaica, N. Y., gave some personal reminiscences. Graduates of all normal schools who are in the vicinity of New York are cordially invited to join the association.

FOREIGN NOTES.

France.—The *public schools* of France increased in number from 62,997 in 1881–82 to 66,708 in 1886–87. The private schools, however, did not decrease, as one would be likely to think, but increased likewise; namely from 12,638 to 13,501. The annual increase of public schools during the last five years, namely, 1882–87, was 742, which is somewhat less than the annual increase of the preceding period of five years, when it was 765. During 1872–77 the annual increase was 541; from 1850–66 the annual increase was 639; and between 1882–47 it was 757. Hence the third republic has given the best evidence of good intentions in its phenomenal increase of the number of public schools, although the increase during previous periods was not inconsiderable. Of the 66,708 public schools 25,121 are boys', 23,224 are girls' and 18,363 are mixed schools. Of the sum total there are 57,611 secular and 9,097 denominational schools (in 1881–82 the numbers were 51,732 and 11,265). The secularization of the public schools has made considerable progress during the last five years of which the report treats; still the ratio of denominational schools, to the number of public schools is 13.6 per cent.; which is nearly 3 per cent. more than it was in 1843 (10. 8 per cent.), while in 1876–77 it was 22. 4 per cent.; in 1881–82 it was 17.9 per cent. The convent schools are particularly frequent among the girls' schools, their number being 7,462.

Private Schools in France.—While their number had decreased between 1833–77, it has, since then, increased especially during the latest period of five years (1882–87) namely 6.8 per cent. This increase is particularly noticeable in densely populated and wealthy provinces; and the increase is greater among girls' than boys' schools. In the Dept. of the Seine (with Paris) there are 1,316 private schools, of which are 1,029 girls', respectively mixed schools, and only 287 boys' schools.

The popularity of Hood's Sarsaparilla increases every year. It is the best blood purifier.

BOOK DEPARTMENT.

NEW BOOKS.

PLATO: GORGIAS. Edited on the basis of Deuschle-Cron's edition, by Gonzalez Lodge, Bryn Mawr College. Boston and London: Ginn & Co., 1891. 308 pp. $1.75.

This edition of the "Gorgias" is edited with that care that marks all the volumes in this firm's "College Series of Greek Authors." A long introduction treats of the beginnings of rhetoric, Gorgias' life and activity, aim and principle of the dialogue, scenery of the dialogue, plan of the dialogue, summary of the dialogue, and time of composition of the dialogue. This is a free reading of the original, with additions. In more than sixty cases, where the text varies from that of Cron, the readings of Schanz have been adopted. The commentary differs materially from the German, especially in grammatical matters. The exact study, which has been bestowed of late years in the United States upon the subject of Greek syntax, has made it possible to make this part of the book, to a certain extent, American. The appendix is much more extensive than that of the German edition and contains much matter that could not be inserted in the commentary. In accordance with the general desire of teachers the notes are printed below the text: but, in order to accommodate all, the firm issue editions with the text bound separately. Large type and clear diacritical marks emphasize distinctions and minimize the strain upon the student's eyes.

ADVENTURES ON THE MOSQUITO SHORE. By E. George Squier, M.A., F.S.A. With thirty-six illustrations. New York: Worthington Co. 366 pp.

That strip of land lying along the eastern shore of Central America in the dominion of George William Clarence (known as His Mosquito Majesty) is something more of a travesty of a kingdom than even Prince Otto's realm, described in Mr. Stevenson's charming story. To be sure, compared with Prince Otto's dominions, His Mosquito Majesty's domain is of vast extent, but there are certain features that make it even more ridiculous. Columbus touched this shore on his fourth voyage in 1502 and claimed it for Spain, but through the machinations of some Englishmen from Jamaica, who wished to make it a British protectorate, its fortunes were uncertain. Finally King Robert Charles Frederick, the father of Clarence, was invested with the Mosquito purple; the coronation, compared with the European pageants, was the broadest kind of a farce. Great Britain, however, obtained a hold on the shore, which was only relaxed when the United States appeared upon the scene. This region was once the scene of the operations of buccaneers who found safe retreats from pursuit among its lagoons. Its present inhabitants are of all degrees of complexion from the pure negro and Indian through all mixtures of the races to the pure European. The narrative gives the adventures of a young painter who visited the strange region. It is told in a pleasant, familiar way, and there are bits of word painting here and there that show the true artist, and will be found very entertaining reading.

NEW YORK CHARITIES DIRECTORY. Published by the Charity Organization Society of the City of New York, 21 University place. 400 pp.

In looking over the pages of this book one wonders at the number and variety of the charity organizations in the city of New York. In a former edition they were arranged alphabetically, but it was thought that the present classified list would be more convenient for those for whom the book was specially designed. They are classified as those giving government or official aid; those furnishing temporary relief: special kinds and for special classes; foreigners' relief; permanent relief of distress: medical and surgical relief; relief for the defective and afflicted: reformatory; religious and moral; miscellaneous; mental and provident societies, etc. It is surprising that with all this machinery for relief there is so much suffering in the metropolis.

LESSONS IN RIGHT DOING. Volume I. Stories and Talks. By Emma L. Ballou. New York: Teachers' Publishing Co., 6 Clinton place.

The impressionable period of childhood is undeniably the time in which to enforce moral lessons. Our schools in the past have fallen far short of their opportunities for molding the characters of the young by gentle, persuasive means, the kind of moral suasion most in vogue taking the concrete form of a birch sprout. The author of this little book favors the means of teaching that appeal to the heart and the reason, and in this she is in accord with the ideas of advanced educators. Children have their aspirations for better things, and it is the teacher's privilege to lead them upward. This requires not only good intentions on her part, but good methods. The young folk must be interested. Miss Ballou presents a story in which the children will be interested, and follows this up with a discussion between teacher and pupils. The aim is to draw out their ideas, and to form in them the habit of reflecting on the rightfulness or wrongfulness of certain actions. When they go forth in the world they will not be like those brought up under the old plan of instant, unthinking obedience whom the first evil encountered took by surprise, but will be competent to meet and withstand evil. The lessons in this volume refer to obedience, punctuality, kindness, truthfulness, promises, conscience, and duties toward God. The summaries serve to place the main points vividly before the mind; the blackboard exercises will serve the same purpose. The author has not attempted to cover the whole ground—only that which can reasonably be expected of the school; the church and the home should do their part. As giving a foundation for moral training the lessons will be found quite satisfactory.

ANNOUNCEMENTS.

WORTHINGTON CO., 747 Broadway, New York, announce for immediate publication "Boris Lensky." by Ossip Schubin, translated by Elsie L. Lathrop; also "A Brave Woman," by E. Marlitt, translated by Margaret P. Waterman; a romantic novel of which the scenes are laid in one of the inland capitals of Central Europe.

D. LOTHROP COMPANY have just issued "Helps for Teaching Reading," by Miss Martha S. Hussey, a book designed as an aid to the teachers of reading in the public schools.

D. C. HEATH & Co., Boston, have in press for early publication in their Modern Language Series, an edition of Eichendorff's "Taugenichts" with notes by Prof. Osthaus of Indiana state university.

WM. H. BRIGGS, Rochester, N. Y., is the publisher of the "Preston Papers," by Miss Preston's assistant (Lucy A. Yendes) a book relating to school work, said to be "bright, breezy, and entertaining, while full of valuable ideas and useful suggestions."

GINN & Co. will publish during the summer of 1891, in the College series of Greek authors, "The Prometheus Bound of Æschylus," with the fragments of the "Prometheus Loosed," with introduction and notes by N. Wecklein, rector of the Maximilian gymnasium in Munich, translated by F. D. Allen.

A. C. MCCLURG & Co. announce the publication of a story entitled "Down the O-hi-O," which will be of unusual interest to dwellers along that historic waterway.

LEE & SHEPARD have just issued in their "Good Company Series," James Freeman Clarke's story of the "Life and Times of Jesus." The work is written in the narrative form by Thomas Didymus, the skeptic disciple.

THE SCRIBNERS will shortly issue "Talks with Athenian Youths," by the author of the popular translations from Plato, entitled "Socrates," "A Day in Athens with Socrates," etc. It contains five dialogues translated from Plato, and selected for the purpose of illustrating the typical Athenian youth of the time.

FORDS, HOWARD & HULBERT have issued Judge Tourgee's new novel, whose hero is Murvale Eastman, a young Episcopal clergyman.

COWPERTHWAIT & Co.'s publication, "Warren's New Brief Course in Geography," is intended for pupils who, from the nature of circumstances, can devote but a limited time to school work. It contains many attractive features among which are the physical, political, and reference maps.

MAGAZINES.

The frontispiece in the *Magazine of Art* for March is an etching after Ludwig Knaus called "Hunger Hath no Fare," which represents an apprentice boy eating an apple and holding a squalling baby in his arms at the same time. Frederick Wedmore's opening article on "Current Art" is illustrated by reproductions of some of the more important modern pictures. Arthur Salmon's poem, "A Village Maid," is illustrated in a beautiful and original manner by C. Ricketts. Holman Hunt has an article on "The Proper Mode and Study of Drawing," and then comes the second and concluding article on "Portraits of John Ruskin," by M. H. Spielmann. "The Use of Metal in Bound Books" is considered in an interesting way, and "Japanese Pottery" is intelligently described by Earnest Hart, and illustrated from some famous pieces.

We have received the second (January) number of the *International Journal of Ethics*, a quarterly devoted to the advancement of ethical knowledge and practice, published at 1602 Chestnut street, Philadelphia. The international character of the magazine is assured, if we can judge by the editorial committee consisting of Felix Adler, Ph.D., New York; Stanton Coit, Ph.D., London; Prof. G Von Gizycki, Berlin; Prof. Fr. Jodl, Prague; J. S. Mackenzie, M.A., Manchester; J. H. Muirhead, M.A., London; and Prof. Josiah Royce, Harvard university. The field for the magazine to cover is a wide one. The articles in this number are: "The Rights of Minorities" by D. G. Ritchie; "A New Study of Psychology," by Prof. Royce; "The Inner Life in Relation to Morality," by Prof Muirhead; "Moral Theory and Practice," by Prof. John Dewey; "Morals in History," by Prof. Jodl; "The Ethics of Doubt—Cardinal Newman," by W. L. Sheldon; "The Ethics of Socialism," by Prof. F. H. Giddings; and "Ethical and Kindred Societies in Great Britain," by Mrs. M. McCallum. The magazine will fill the place that was awaiting it. There is a large and increasing class of readers interested in this important science.

A magazine of the size of *The Ladies' Home Journal*, which has just reached a circulation of 600,000 copies, requires a good deal of room; another four-story building is to be occupied next month, in addition to the two six-story buildings now in use.

Babyhood for March has articles on "Size and Weight of Infants," and "The Ideal Nursery." The magazine has among its contributors many of the most eminent physicians in the country.

The centennial of the death of John Wesley occurred on Monday, the 2d of March, and was appropriately observed by Methodist organizations throughout the world. In view of this occasion the number of *Harper's Weekly* for this week is accompanied by a four-page Wesley supplement, superbly illustrated, and containing an appreciative and valuable article on the life and work of the celebrated founder of Methodism.

The opening chapter of a new serial story by Annie Bronson King, entitled "Yellowtop; or, One Little Boy and his Friends," appears in *Harper's Young People* for March 3.

A Morbid Sentiment.

"'Tis a misery to be born, a pain to live, a trouble to die." Rather a dark picture of the world that many of us find so alluring. We think a course of the Compound Oxygen Treatment would have caused the writer to take a more cheerful and hopeful view of things. But read for yourself what Compound Oxygen has done for patients who found it a "pain to live," but up to the present, have been spared the "trouble of dying."

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This plan of giving instruction is so novel that many persons are apt to misunderstand it, and are inclined to hesitate. You are asked to turn back and carefully re-read the statement on page 77 of THE SCHOOL JOURNAL, issue of January 31. To the information there given we add that twelve individual lessons are given by mail by the author, Professor Moran. The usual charge for this course of lessons is $5.00, but JOURNAL readers are charged $2.00 only. Remittances should be made direct to the instructor, Eldon Moran, St. Louis, Mo. A trial exercise is corrected, and lesson blanks sent free to all who apply within a reasonable time. You will never have a better chance to learn short-hand thoroughly and cheaply. Professor Moran's copyrighted method of teaching by mail gives entire satisfaction, and its popularity is attested by the fact that more than twenty-five hundred students have engaged lessons by mail from him within the past year.

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Office: Nos. 346 & 348 Broadway, New York.

JANUARY 1, 1891.

Amount of Net Assets, January 1, 1890 ..... **$101,027,382.46**
Less Contingent Sinking Fund (reduced value in securities, December 31). 568,525 11
$100,458,797.35

REVENUE ACCOUNT

Premiums	$28,863,854.71	
Less deferred premiums, January 1, 1890	1,635,845.37—	$27,228,209 34
Interest and rents, etc	5,371,225.38	
Less interest accrued January 1, 1890	441,344.64—	4,929,880.74— $32,158,100.08
		$132,616,897.43

DISBURSEMENT ACCOUNT.

Losses by death, and Endowments matured and discounted (including reversionary additions to same)		$7,078,272.48
Dividends (including mortuary dividends), annuities, and purchased insurances		6,201,271.54
Total Paid Policy-holders	$13,279,544.02	
Taxes and re-insurances		290,257.67
Commissions (including advanced and commuted commissions), brokerages, agency expenses, physicians' fees, etc		5,400,051 19
Office and Law Expenses, rentals, salaries, advertising, printing, etc		1,082,662.86— $20,052,538.04
		$112,564,371.39

ASSETS.

Cash on deposit, on hand and in transit		$6,348,924.46
United States Bonds and other bonds, stocks and securities (market value, $67,250,984.74)		63,867,548.16
Real Estate		14,341,917.35
Bonds and Mortgages, first lien on real estate (buildings thereon insured for $15,070,000 and the policies assigned to the Company as additional collateral security)		12,446,083.13
Temporary Loans (market value of securities held as collateral, $5,391,510)		4,168,000.00
*Loans on existing policies (the Reserve on these policies, included in Liabilities, amounts to over $2,000,000)		481,108.71
*Quarterly and semi-annual premiums on existing policies, due subsequent to Jan. 1, '91		1,858,927.00
*Premiums on existing policies in course of transmission and collection. (The Reserve on these policies, included in Liabilities, is estimated at $2,000,000)		1,431,828.15
Agency balances		195,812.91
Accrued interest on investments, January 1, 1891		474,823.52 —112,564,371.39
Market value of securities over cost value on Company's books		**3,383,438.58**

*A detailed schedule of these items will accompany the usual annual report filed with the insurance Department of the State of New York.

TOTAL ASSETS, January 1, 1891. - - $115,947,809.97

Appropriated as follows:

Approved losses in course of payment		$613,040.54
Reported losses awaiting proof, &c		304,562.44
Matured endowments, due and unpaid (claims not presented)		39,589.77
Annuities due and unpaid (claims not presented)		22,901.83
Reserved for re-insurance on existing policies (Actuaries' table 4 per cent. interest)		99,954,304.00
Reserved for premiums paid in advance		54,000.53
		$101,04[illegible]9.11
Surplus, Company's Standard		**$14,898,450.86**

Consisting of

Estimated contingent Tontine Surplus Fund	$8,670,539.50
Estimated General Surplus	6,227,911.36

From the undivided surplus, as above, the Board of Trustees have delared a Reversionary dividend to participating policies in proportion to their contribution to surplus, available on settlement of next annual premium.

GROWTH OF THE COMPANY DURING THE PAST DECADE.

New Insurance Issued.	Insurance in Force.	Assets.	Annual Income.
In the year 1890...$22,229,979	Jan. 1, 1881...$175,726,916.	Jan. 1. 1881...$43,183,934.	1880...$8,964,719
In the year 1885... 64,521,452.	Jan. 1, 1886... 259,074,500.	Jan. 1. 1886.. 66,864,321.	1885... 16,121,172
In the year 1890... 159,576,065.	Jan. 1, 1891.. 569,338,726.	Jan. 1. 1891..115,947,810.	1890.. 32,158,100

Number of policies issued during the year, 45,754. New Insurance, $159,576,065.
Total number of policies in force January 1, 1891, 173,469. Amount at Risk, $569,338,726.

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Students and teachers of the classics have noticed with interest among the books recently published, Matthew Arnold's "Sohrab and Rustum." An introduction to the writings of John Ruskin, Sallust's "Catiline," and Miller's Latin Prose for Colleges. These books are part of the Student's Series of English and Latin Classics, published by Messrs. Leach, Shewell & Sanborn, of Boston and New York. Their list of books includes Wells' College Algebra, Steele's Rudimentary Psychology, Macaulay's Second Essay on the Earl of Chatham, and Lord's Livy, Books XXI and XXII, Cleveland's Second Primary Reader, and Exercises in Geometry.

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NOTED PERSONS AND PLACES.

(In this column will be found facts concerning such noted people, cities, countries, mythological characters, etc., as are frequently mentioned in literature. These paragraphs, in which a great amount of useful information is condensed, will be of great value in the school-room.)

ALFRED THE GREAT, king of the West Saxons, in England, born at Wantage, Berkshire, in 849. He had a good mother, named Osburga, who told him about the heroes of the past and taught him the Saxon ballads which related their deeds. One day she showed him and his brothers a book of poetry with beautiful painted letters, and said: "The one among you children who can first say this book by heart shall have it." Alfred, then about four years old, said: "Will you really give it to the one who learns it the quickest?" "Yes, to him will I give it." Alfred got his teacher to read it to him until he had learned it by heart, when he repeated it to his mother and won the book.

When he was twenty-two years old (871) the Danes invaded England, and in a great battle with them King Ethelred, Alfred's brother, was killed, and Alfred became king. Though the Danes had been defeated in this battle, many more came from Denmark, and ravaged all parts of England, and unable longer to fight them, King Alfred, with a few followers, took refuge in the woods. Alfred, having found out all about the Danish army, attacked it and defeated it with great slaughter (878). Godrun, who was taken prisoner, was given his liberty on condition that he and his followers should become Christians, and was allowed to live in the east part of England, where he continued to be Alfred's friend all the rest of his life.

Alfred was now really the ruler of all England, although he was never called so, and he began to do what he could to build up his country again. He rebuilt cities and castles, and erected many new ones; strengthened his army and built a navy; made good laws, set up schools, and did all he could to educate his people. It is said that he founded the University of Oxford and was the first to establish trial by jury, but neither of these is certain.

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AMAZON, a tribe of female warriors, who lived on the banks of the river Thermodon in Pontus, Asia Minor, who suffered no men to live among them. They are said to have been so called from their habit of cutting off the right breast (the word Amazon being from two Greek words, meaning without a breast), to give them greater freedom in using the bow. During the war against Troy they fought under their Queen, Penthesilea, against the Greeks. The Amazons are often mentioned by Greek writers, and the Greek artists loved to paint pictures of their battles, but it is doubtful if such a people ever lived.

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AMBROSE, SAINT, bishop of Milan, born at Treves, in Gaul, in 340. His father was governor of Gaul, and he himself was made governor of Liguria, a province of which Milan was the capital, when only twenty-nine years old. When the Bishop of Milan died, though he had never been even baptized, he was so much beloved that he was chosen to succeed him. Though he did not want the office, he accepted it until his death which took place at Milan, in his fifty-eighth year (397). He showed much piety and wisdom and at the same time great courage.

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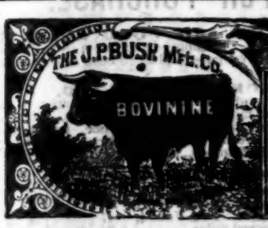

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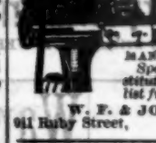

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